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At various times I have been consulted by parents regarding the best method of correcting stammering in a child, also by adults who have complained of certain peculiarities in their speech, such as lisping, burring as well as stuttering. At first I had simply to advise them to put themselves under a proper tutor who made such a part of his elocutionary teaching, as during the whole of my medical curriculum the treatment of such defects was never entered upon by any of my medical instructors. This struck me afterwards as being strange. Why should this particular branch be passed over, as it were, and left entirely in the hands of the educationalist? This class seem to me to put hindrances in the way of gaining any knowledge regarding the treatment of

defects of speech. Every person that I have heard of as undertaking the curing of such ailments seems to tenaciously stick to whatever knowledge he has regarding the subject, and won't divulge more of the principles, than he possibly can help, by which he endeavours to alleviate those who put themselves under his care.

No medical man to my knowledge has taken this subject up to practice it as a speciality or even in the ordinary course of medical work.

Getting a little interested in the subject I consulted Behnke and Lennox Brown's "Voice Song & Speech". In this valuable work however very little is devoted to this particular part, there only being a short article regarding it at the end of the book, the rest of the book dealing more with the singing voice. That small

amount that is given does not enter into the treatment to any appreciable extent.

Consulting Bell's "Standard Elocutionist", Vandenhoff's "Art of Elocution" in addition to "McKendrick's Physiology" I arrived at what I think might be a basis or principle of treatment regarding defects of Speech.

In any attempt to remedy defects of speech there must be some knowledge of the elementary sounds of language, that is, where no surgical interference is needed, as is the case with the ordinary Stammerer or Stutterer. That such knowledge is overlooked, to a great extent, by medical men seems to be obvious from the fact that no medical man as far as I know, professes to treat defects of speech other than those caused by disease or malformation of the organs involved in articulation.

the cure of such people who are unfortunate to be so troubled is left entirely in other hands. Would not the person thoroughly acquainted with the anatomy and physiology of the parts involved, be a more likely individual to superintend the instructions necessary to the alleviation of such impediments? He would I think be better able to find out the real cause and adopt means for its removal.

Stammering, according to Behnke & Brown (Voice Diag & Speech p. 224) "may be said to imply fault of articulation of vocalised sound", while stuttering they say is a "fault of co-ordination between articulation and vocalisation." The same authorities give it in the same page, that a stammerer is "unable to regulate his tongue palate and lip-opening so as to form the vocalised sound into a distinct vowel,

while the stutterer "places his articulating organs in the right position for the enunciation of some particular consonant but is unable to combine with it the vocal sound giving it its vowel character."

In these definitions it will be noticed that the former has particular connection with the vowel, while the second involves more closely the consonant. These two classes, namely vowels and consonants, may be said to be the principal divisions into which the elements of speech are classified.

In defining these two we may say that the vowel is capable of being uttered alone, while the consonant is said to require the assistance of a vowel to make its pronunciation complete.

Now, grammatically speaking, it may be granted that to the proper pronunciation

The name of the sign B or T a vowel must be added, as in articulating B it become be as also F become ef. In combinations, however, with other signs these consonants do not require the aid of a vowel. This can easily be illustrated by taking the word "brandy". If the letter b in this instances required the aid of a vowel for its pronunciation, you could not utter the word at all. This, to me, seems sufficient to indicate that, in correcting defects of speech something more than grammatical knowledge is wanted. There is also required an understanding as to the formation of the sounds which go to make up our language.

For this purpose an alteration in the classification of these sounds would be advantageous. But the grammatical

aspect of the question to one side, and instead of using the word consonant, transplant it, as it were, by the word "articulation". We would then have

(1) Vowels – those sounds which pass freely through the mouth

(2) Articulations – those which require a modifying action of some part of the mouth.

In this division we would have recognised two important principles, namely in the first, the position of the organs of speech and, in the second, the actions of those same organs.

In considering these sounds it will be seen that for the vowel sounds there is no bringing of the modifying apparatus into opposition, the parts only being brought into the position necessary for the formation of the sound. In articulations on the other hand there must be a

bringing of the various parts into apposition, some further movement of the lips, tongue &c either to commence the articulation or to complete it.

Vandenhoff (Art of Elocution) accepts Dr Rush's classification of the elements into Tonics, Sub-tonics and Atonics. For the purpose of remedying defects of speech however, this does not seem to me to be very applicable, because the division of Tonics, Sub-tonics & Atonics does not make the <u>action</u> of the organs as prominent as I think it deserves to be, but deals more with the quality of the sounds than with the action whereby those sounds are produced. In these particular ailments it is just the position and action of the parts with which we have to deal, hence my preference for the use of the divisions into

(1) Vowels (2) Articulations. In the following pages I shall endeavour to show how, to my mind, these elementary sounds are produced so far as the mechanism of the question is involved, and also the principle of treatment which might be followed.

Each letter in our language, whether it belongs to the one class or the other, has its own peculiar sound or sounds. It is this fact which affects the ordinary grammatical classification, because in our grammar we have only five vowels, namely, A. E. I. O. U sometimes y & w added. We have however many more vowel sounds. By this fact Pitman has made use in founding his system of short-hand writing. We have thirteen English vowel sounds which may be arranged in the following order.

1	ēē(l)	(p) ūll	pōō(l) .13
2.	ĭ(l)	ōh(l)	.12
3	ā(l)	ŏ(re)	.11
4.	ĕ(ll)	ō(w)	ā(ll) .10
5.	ă(n)	ŭ(p)	ŭ(m) .9.
6.	ā(sk)	ēar(h)	.8

7. āh

This table is given in "Bell's Elocution" and, strangely enough, is given without any explanation of detail, as if the facts were apparent to the eye of any person looking at it. On the other hand it seemed to me to be a complicating of matters and without doubt to a person troubled with a faulty speech the presentation of such before him would tend more to aggravate his impediment than otherwise. On studying each one of these sounds more closely I found to my entire satisfaction much use & real

value in them.

In the formation of these sounds the lips & tongue are the modifying parts — moulding, as it were, the sound produced by the vibration of the vocal cords in the larynx. The first seven are produced and differentiated the one from the other by the position of the tongue in the mouth.

Beginning with the first — ēll) — you find that although the upper and lower jaw are not much apart, the oral passage is not in the least obstructed, and the tongue is not much depressed. Passing on to the second and third and so on down the scale until you reach the seventh, that is, āh, you will notice that at each one the oral passage gets wider and the tongue in the mouth more and more depressed. Of course in the production of the vowel sounds or any other sound, the

lips and tongue are dependent upon one another, the tongue being more prominent in the first seven, and the lips the chief factor in the others.

For these more in connection with the lips begin with the thirteenth - oō as in pool or ū in full, and you find the lips are pretty close, but as you pass on from one to another until you reach the eighths, they are gradually widened until you reach the climax at ēar(e) - Some of these will be noticed as being shorter than others although practically the same vowel sounds - the same formation of the mouth being required for their production.

In all these vowel sounds the important point is that there is a clear passage from the larynx to the oral aperture. The sound is originated by

the vibration of the vocal cords and according as the shape of the mouth is varied by the lips or tongue as we get the productions of the different vowel sounds. There must be no contact between the tongue and the hard or soft palate, or the purity and proper sound of the vowel is interfered with. There must be no hindrance to the passage of breath through the mouth. In this fact lies the essential difference between the vowel and articulative sounds

Turning to the "articulations" or consonants we shall go over each one separately, noticing the mechanism by which they are produced. In this point I consulted "McKendrick's Physiology" vol. II p. 719 where the physiological character of the consonants is spoken of. There however no material

help is derived from the study of the chapter as forming a foundation or basis on which to form any particular line of treatment. I have already stated that for this purpose "articulations" are to be preferred to "consonants". In this chapter above referred to Prof. McKendrick makes no distinction between the linguals D and T or between the labials B and P, also the same with the gutterals G and K. It is simply stated here, that these are either labials, linguals or gutterals.

Now it is evident that there is more than the mere fact of these being either gutterals, linguals or labials. Each individual articulation must have a distinctive character to distinguish it by, and it shall be my endeavour to show how they seem to me to be differentiated the one from the other.

Taking B and P as examples we find that before the letters are pronounced there must be a complete obstruction to the passage of breath by the contact of the lips. The expulsion of breath which follows the separation of the organs gives us the sound of P, but to distinguish it from B we find that B has a fullness and roundness in its tone, and seems to come more from the back part of the mouth. The short character of P is obtained from the lips, while B is produced more in the larynx and pharynx which seem to act as a resonating chamber for it. To test this, grasp the throat in the upper part with the fingers lightly & pronounce these two letters. After uttering P you will find in pronouncing the letter B that there is a further movement of the larynx communicated to your fingers - a feeling as if

you almost felt the sound, which no doubt is due to the vocal vibrations being communicated through the tissues of the neck.

The general classification given by Prof. McKendrick seems to my mind rather lax for any practical use to be made of it. The exact physiological action which distinguishes one consonant from another is wanting entirely. That there must be a particular physiological character for each one is certain or else there would be no need of them. If G and K are both Gutturals by what further characteristic is the one to be separated from the other?

By what particular action or quality are we to be able to differentiate the one from the other? In the formation of both letters it is necessary there should be a complete obstruction to the passage of breath to begin with, but the mode of obstruction in each case

is different. Let any person try to pronounce G and take notice of the position in which the tongue is placed in the mouth. What we find is that the anterior part of the tongue is pressed against the hard palate and the tip of it in close contact with the inside of the teeth, completely closing the oral passage. The result of this is that the impeded breath appreciably dilates the pharynx the resulting force of which adds to the audibility of the letter on the sudden separation of the articulating organs. K on the other hand is formed altogether at the back part of the mouth. There is first of all a holding in, or suspension of the breath, with an approximation of the back part of the tongue and the curtain of the soft palate. The separation of these parts with the explosive action of the breath gives the characteristic sound of K, while

in G the sound comes more from between the teeth. Here I think there is much difference shown in the formation of these two letters, K having wholly to do with the posterior part of the tongue and mouth, while G has to do with the anterior part, the guttural characteristic which is added constituting the common quality. A different conception altogether than the one given by Prof. McKendrick would be more useful, as the classification given by him is more of the usual grammatical character.

Let us begin with those letters in which there is complete obstruction to the oral tube. These we find are P. T. K. B. D. G. J. The mechanism of articulation for these seven letters is first a complete & firm contact of the organs involved, which is followed by

a sudden separation of the same with, at the same time, an explosion of breath. The organs employed are, for P the lips, for T the anterior part of the tongue and hard palate, while for K it is the back part of the tongue and curtain of the soft palate. These three are produced with the breath already in the mouth and pharynx, but which has been suppressed, as it were, by the contact of the organs.

For B and D we have the same position of the articulative organs as in P and T, but in the passage of breath for their production there is added a fuller and deeper quality, a shorter more resonance from the cavity of the pharynx and larynx. The difference between G and K I have endeavoured to show already. In testing the articulations D and T take the

word "darling." To prevent the confusion of the first letter D with T, there must be a fuller opening of the mouth for D than there is for T, so as to enlarge the vocal cavity and thus increase the capacity of the resonating chamber. The same takes place when pronouncing "dart" so as to make the difference plain between it and "tart." To pronounce these articulations properly the percussive action necessary to their production must be executed sharply. In fact to pronounce them is hardly possible. What must be noticed is that in the production of these sounds none of the sound must be allowed to escape through the nares. It has been said that the only difference between P.T.K and B.D.G is that the sound is partly allowed to escape through the nose for the last three. This I think is

a mistake and entirely wrong, as the difference lies more in the vocal quality of the latter as compared with the former. For the practice of articulating these letters a good plan would be to affix a vowel to each and then with a slow, steady articulation, say to a person beating time with a stick, repeat them a good many times. The seventh one - J is also obstructive as there is a suspending of the breath while the tongue completely obstructs the oral passage by being firmly pressed against the anterior portion of the hard palate. On the separation of the parts there is a sudden explosion of breath producing the third vowel sound ā as in ā(ll).

These seven articulations may be termed the Complete Obstructive Elements. The remainder will be Partial Obstructives.

For practically the same obstructive position we have for B and T we get the sounds of M and N. The difference is that for M we have first an emission of breath as it is got from a whispered fourth vowel as in ĕll). Following this is the contact of the lips and a passage of breath through the nose, the articulation being completed on the separation of the lips. The same preliminary step takes place with N, but it is the tongue and hard palate which come in contact.

For NG there seems to be a certain amount of suspension in the articulative position for K while the breath is forced out of the mouth and nose at the same time.

In going over the mechanism of the partially obstructed elements it will be seen that some of them

are closely related to one another in their articulating positions.

C is produced by first having the teeth loosely approximated, the tip of the tongue being against the lower teeth. The breath when forced out of the mouth with the organs in this position produces a hissing sound. Following close on this, in fact while the hissing sound is taking place the mouth is opened to the position of the first vowel sound ēē (ē), which vowel is sounded, completing the articulation of C.

S has also this hissing sound, but instead of preceding its accompanying vowel sound ĕs (ĕ) it comes after it, and the tip of the tongue is more in contact with the upper teeth. Both of these sounds seem to have a prolonged character as compared with those already

mentioned.

In F we have the vowel ĕll taking the first place i.e that the upper teeth are brought in apposition with the lower lip, while the tongue lies in the mouth with a slightly appreciable curve. In close relation with F we may place V, but as with the preceding pair of articulations, V-like C- is produced by the organic parts coming in contact before the vowel sound is produced to complete the letter. The parts in contact are the same as in F, but in separating them the long sound of ē is produced as in ēēll, whereas in F it is ĕll we get.

Z is said to have simply a vocal character to distinguish it from S, which has no vocal character, but is only a hissing of the breath. This is clearly

a mistake as <u>all</u> the articulations require vocality for their proper formations, some of course more than others.

Z is formed no doubt, partly by the contact of the same parts we have in S, the contact in Z taking place first, then the separation of the organs to allow of the vowel sound ĕ(e). But there is another difference, the proper distinctive character of the letter, namely, the fore part of the tongue is firmly placed in contact with the anterior part of the hard palate as we have in D, which gives the firm hard character noticed in the ending of the articulation.

In the articulation of L, after its primary vowel sound (ĕ) we have the tip of the tongue being brought in contact with the junction of the teeth and hard palate, and owing to this

obstructions the breath is forced past the sides of the tongue.

R has also its vowel sound coming first, which is followed by the tongue being curled up, as it were, and brought in loose contact with the palate, the breath in forcing its passage producing a vibratory sound, the vibrating element being the tip of the tongue. According as the position of the point of contact is shifted backwards so does the character of R become rougher.

In our language W and Y are mostly used as vowels as they are seldom produced by themselves or articulated, in comparison with the other articulations. For all practical purposes they might be classed as vowel sounds. Take the words "who"

and "yow" and my meaning will be clear. Here both W and Y are simply vowel sounds, no articulative action entering into their formations whatever.

Q has an articulative position much the same a K, but while the finishing sound of K is the third vowel ā, that for Q is a combination of "Y" and ōō = y̆ōō.

X is articulated by the back part of the tongue coming in contact with the curtain of the soft palate, and the fore part of the tongue being approximated towards the hard palate and the teeth being brought together more firmly at the sides than in front, after the vowel sound ĕll. The breath seems in this instance to be squeezed through the oral aperture.

C and Q are said by Bell to be altogether redundant, while J and K are not simple elements. But they enter into, and form part of our everyday language, and whether they are necessary or not in some opinions, does not do away with them. The fact of their being in constant use makes it necessary to have an idea as to how they are produced.

There is however another important letter to look at, namely, the aspirate H. It is called the aspirate because of its being only a breath formation and according to some is simply a breathing of the vowels. True it may be so in such words as "he" or "who" but in a word like "Church" we must have a distinct articulative action to get the proper value of the letter, the

articulative action being the coming in contact of the tongue and palate. So H may be classed as a vowel breath sound and also as an articulation.

The other articulative sounds which we have are represented by Sh. Th. Wh and Zh. The first three are simply breath formations, which is easily demonstrated by pronouncing the words into which they enter. Th however is also a voice articulation as when it is found in "then". In illustrating these take the word "She" and in uttering it you will perceive that what is represented by Sh is simply a forcing of the breath out between the teeth. Th in "thin" is the same thing, only the breath is forced out between the lip

of the tongue and the upper teeth. In pronouncing "them" however you will perceive the vocal character of "th" at once, as compared with it in "thin" Zh has also a distinct vocal character.

I have gone over these articulations individually simply because none of the ordinary systems of classifying them seemed to me to be of any practical use as regards giving an indication of their mechanical formation. To simply state that one is a guttural and another a lingual is of no real value. It is simply a matter of degree whether one is a guttural or not, as there is not one of these articulations into which the so called guttural character does not enter, as the pharynx and larynx constitute the resonating chamber for all of them, the

resonance being so much more prominent in some than in others according as that chamber is modified for the productions. How could it possibly be otherwise since all vocal sounds are originated by the vibrations of the vocal cords, the passage above with the ventricles of the larynx acting as the resonating chamber of the voice. The division into gutterals, labials, or linguals is good enough as far as it indicates that one articulation has more of a certain quality than another. It goes no further however and no person need attempt to remedy defects of speech until he has a clear conception of the mechanical formations whereby each articulation is produced, at least such is my opinion. I may be wrong in my explanations but such is my

convictions and I have simply stated how they appear to me to be formed.

The next step will be big and show how the preceding may be made useful as material on which to base some method of treatment.

Before attempting anything, the first duty will be to see that the parts concerned are in a normal condition. The nares must be examined for polypi or any other diseased condition. The tonsils may be enlarged, which must first be put right. Test the hearing to see if there is a proper appreciation of sounds. The condition of the palate must also be looked to, and the uvula as well, as this latter is sometimes more elongated than it should be.

Having satisfied yourself as to the

foregoing, that anatomically the parts are normal and practically healthy you may turn your attention to the remedial side of questions.

Here I may state that while thinking over this subject my attention was called to a small pamphlet, bearing on the same subject, which has been reprinted from "The Journal of Laryngology, Rhinology & Otology" In this article my opening statement is fully borne out, viz, that the want of knowledge, or at least seemingly so, among medical men regarding this subject is very marked. The statements of Dr. G. A. Davies of Newport (Mon.) shew this clearly enough, as in the treatment of his own son for stammering he had no medical authority to whom he could apply, and determining not to encourage or patronize empiricism or quackery he applied to

Lennox Braun, who advised him to put the lad under Mr. Emile Behnke, the result being most satisfactory. In this pamphlet which I refer to Mr. Behnke in his remarks talks a good deal regarding the drill exercise for the diaphragm to correct the impaired mode of breathing. That is all valuable enough, but why not tell us what further particulars he is in possession of regarding the treatment in detail. Mr. William Van Praagh who has made such progress with his oral method of teaching the dumb has, to my mind, the same fault, namely, this holding back of information which they seem possessed of which gives the appearance of keeping to themselves the "tricks of the trade."

Nearly all the defects of speech

which we meet with have their starting point in early life. It is there we have the best chance of correcting these faults.

But among the higher classes where governesses are commonly employed to teach the younger generation there is no person, as a rule, who attempts, or in fact is qualified, to do so. The person in charge of the child has generally no knowledge of how to proceed in the first instance in the way of correction and so the fault is allowed to develope. Thus it is with a child who lisps. At present I have a girl of eight years of age in my mind. To my own knowledge the parents of this child actually think it is amusing to hear the child name things after them in a lisping, dawdling manner. The father will even lisp over a

sentence and ask the child to repeat it. The natural consequence is that any tendency there is towards this particular habit is increased an hundred fold. At the very first appearance of such a habit let there be at once an attempt made in the improvement of the articulation. It requires constant practice and plenty of patience combined with a proper idea as to the mechanical production of the vowel sounds and articulations. Of course in adults the matter is much worse to deal with.

One thing to be noticed very particularly is, that in those people who stutter or stammer there is a nervous habit. In some it is no doubt congenital while in others it is acquired. The consciousness also that they do stammer seems to make them worse at times and helps

to engender in them a nervous temperament. The result of this is that it tells on their things as well as their speech, their whole system seeming to a certain extent to be affected.

Now it is evident that in dealing with such, the best way to proceed will be, to endeavour to get rid of this excitability of the nervous system. Make the patient or pupil feel at ease and do not attempt anything in the way of exercise until such has been obtained. In all treatment of defects of speech the one great aim is to try and get a <u>slow</u> and <u>steady</u> articulation. Great stress is laid by Behnke upon a correct style of breathing. The rationale of this is simple enough. If the breath, which is the material of speech, is not properly managed then it is clear that in time it will tell on

the constitution in one way or another, & what is more likely than it should affect the speech, of which it is such an essential part.

Having obtained a proper mode of breathing (to which I shall again refer) what should be the next proceeding?

As before stated, people who are so affected are of an excitable habit and very sensitive. Never upon any account laugh at their mistakes. To do so is to do incalculable harm. It is quite distressing enough for them to be conscious of their failing without your aggravating it by making fun of it. Get their entire confidence. Show them that your desire is to help them out of their trouble and place them on a better footing with their fellow creatures. Once you get them into a pliable condition and have gone through

the breathing exercises, impress upon their mind that their tongue lips & mouth are to be used in the same way as they would use their arms or legs for any definite purpose — at least at first — until they are able to speak plainly without so much conscious effort as that implies. Begin to teach them to speak over again as it were.

Leave the alphabet and the individual letters out of the way so far as their mind is concerned. Deal with the elementary sounds represented by the letters. The patient need not know what plan you are pursuing, in fact it is better that he should not. The elementary sounds must be the main purpose to keep in view.

Begin with the vowel sounds.

Give directions as to placing the mouth

in positions without reference to letters. Give the positions settled for the first vowel & then get them to make an effort at vocality without moving the lips. Once the first vowel position is mastered the next six would follow more easily. Then give directions necessary for the position of the eighth vowel sound and go through the same process as before until you get to the thirteenth. All this of course requires patience and labour. While these vocal gymnastics are going on the letters of the alphabet are not even referred to. Once however he approaches anything like decency at going up and down the vowel sounds slowly and steadily, then the presentation of the letters would be a welcome sight and might even add much more confidence in the pupil.

Keep them to a steady pace and check any tendency to sing the sounds, as the latter is a thing stutterers and stammerers can easily do and to allow such would simply help them to keep up the defect.

In going over the articulations it will have been noticed that the vowel sounds form part of the articulations when the articulations are uttered alone. With the articulations then begin with those which have an opening vowel, that is, those in which you require to utter a vowel sound to begin the articulations. Such are M. N. L F etc.

Here as in the case of the vowels keep all thoughts of the letters themselves away and simply give directions as regards the putting of the tongue, lips etc into certain positions and then

making the vocal efforts. Taking M for example, if the vowels have been gone over with fair results then the first part of the articulations is already mastered. (1) Give directions for the sounding of the fourth vowel ĕ(ll). (2) While sounding this vowel get him to shut the mouth suddenly and firmly. (3) If this gets to be done fairly well then the final instructions of relaxing the lips from this position of firm contact to allow of the ending of the letter.

All this time it must be understood that the pupil has no knowledge of what you are aiming at. Guide the movements of lips and tongue as if they were mere instruments in your hands.

The consciousness of his difficulty in pronouncing words is half the ailment.

He sees a letter or word & tries to

utter it. He has an inward feeling that he will fail & then makes staggering efforts to overcome the difficulty. But with the idea of what he is doing entirely out of the way it becomes a mere mechanical process with the volitional element in the back ground and out of the way of interference.

Once the vowels and articulations have been gone over separately, the combining of them into words would follow. In this case the same principle as in the others could be followed. Every position and action entering into the word would have to be taken separately, one step at a time.

The whole subject seems to me to lie in the fact that the mind of the pupil must at first be kept in a secondary place, as it is in the verse

centres where most of the trouble lies. The power of co-ordination is at fault & the only plan whereby we are to overcome this is by mechanical or automatically performed movements which by & by bring the parts concerned to the point of equilibrium. This is how the subject presents itself to my mind. The nerve centres for both speech and respiration are situated in the medulla (the centre of the brain having to do with spoken language), but all the centres which are situated in the medulla are subject to or under the influence of the higher nervous centres, hence my idea of keeping all efforts of the will as much in the background at first as is possible. The source of all the mischief lies in the centres of speech and respiration. According to Emil Behnke

the action of the diaphragm is the most important factor there is to deal with in stammering. But that this is not all we have to look at, is seen in the fact that, with the drilling of the diaphragm there must be combined a series of vocal exercises, which is really a drilling of the vocal organs also. If the diaphragm and its action was the sole cause of the trouble then we would have no need of vocal exercises, and the diaphragmatic drill would be sufficient to put all right.

What I should like to get at is a knowledge of what is required in addition to these breathing exercises given by Behnke (Voice Sng & Speech p. 145 edn) so that people who cannot afford to put themselves under the care of such a voice trainer, as Mr Behnke undoubtedly is, may be treated by ordinary medical men.

It is with this end in view that I have stated my opinions regarding the mechanism of the vowels and articulations and the use that such might be put to.

Apart, however, from stammering and such vocal defects there is a certain class of people who suffer from affections of the throat and voice who require nothing but a short training on how to use their vocal organs. The most common instance of this is the "clergyman's sore throat." I have had some experience in this sort of case. Take for instance a young clergyman who is physically weak yet wants to make himself clearly heard. An excessive strain is put on the upper part of the throat and chest which in time does them much harm.

The amount of speaking which a clergyman has to do ordinarily does

not amount to much, and the proper use of the voice enables one to speak to a great extent without damaging it.

Having treated any local irritation which may have been brought on, get him to fill his lungs properly by taking a steady, deep breath, raising his ribs with the collar bones fixed or nearly so. The abdominal wall at the same time is protruded to a much greater extent than before as these people as a rule are in the habit of raising the upper portion of the chest. Now however the amount of air taken in is much greater in quantity and consequently with this increased volume less effort is required in speaking, and with practice of this kind in a short time the voice is immeasurably increased in volume and tone, & the comfort of the speaker is also

enhanced.

Here I may instance a case in point. A friend of my own; who is partner in a large auctioneering firm, having very often occasion to speak in public in connection with his business began to be troubled with his voice failing him, and consequently put himself under medical treatment. After prolonged trials of such treatment the voice did not seem to avail him any better. He then put himself under Dr. Haycock of Manchester for a course of reading. This gentleman put him through a proper course of vocal exercises, directing the proper use of the vocal organs with the result that his voice can now be used constantly in business and with no discomfort.

This case alone shows that it was not due to any default in the organs

themselves, but in the use that was made of them.

Many an earnest speaker has I believe shortened his days of usefulness through his very cause, finding that unless he gave over altogether his health would entirely fail him. It is a common experience of such to feel thoroughly used up after any vocal effort and that not necessarily severe. My own opinion is that the foundation of many complaints which we hear from patients of this class regarding their lungs arise from this cause, namely, straining their vocal cords and bringing muscles into action which should be at rest or practically so. Every medical man knows that the amount of air necessary for the oxygenation of the blood is not sufficient for vocal purposes.

Therefore as an item in preventive medicine I should say it behoves every person entering on a public life, as a public speaker, be he a clergyman politician or lecturer of any description to have at least some knowledge as to how to use his voice. It is common advice to tell people who are in every way gifted for a public career that they must give up public speaking or else they will ruin their constitutions. I hold that for one who is talented for such a life there is no necessity to give it up entirely at all. Players on wind instruments seldom die of consumption. But it must be injurious to the lungs if the upper portion be used to an excessive extent as is done in a person who habitually adopts a clavicular mode of breathing, while the lower portion is not used enough, but

allows the air to be stagnant as it were.

It is common knowledge that proper exercise plays an important part in muscular development. The blacksmith's arm or the limbs of an athlete are sufficient in themselves to show this. So it not to be expected then that proper use of the vocal organs & skilled instructions regarding the voice would strengthen and develop the many weak voices and weak chested people we hear and see.