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The Psychology of Sight-Singing

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DECEMBER 12, 1899.

SIR JOHN STAINER, M.A., D.C.L., Mus.D.,
PRESIDENT,
IN THE CHAIR.

THE PSYCHOLOGY OF SIGHT-SINGING.

BY W. G. McNAUGHT.

THE design of this paper is to draw attention to the mode in which our minds work in the act of sight-singing. The subject is one mainly for the consideration of teachers, but it should be of interest to musical students generally. Every rational attempt at an educational classification of the details of such a subject as music must be governed by a knowledge of the way in which the mind develops its latent powers. As singing has exclusively to do with conceptions of sound, I have ventured to style this modest investigation the "Psychology of Sight-singing." The title may appear to promise a more deeply philosophical enquiry into the elusive subtleties of mental phenomena than I contemplate, or am capable of making. But I trust I may succeed in avoiding a path where discreet angels fear to tread and that I may be able to appeal throughout simply to the every-day musical experience of my audience. There are hundreds of books upon sight-singing. Some pay their possible disciples the compliment of assuming that their capacity is so great that the whole matter can be mastered in a very short time and may be presented in a nutshell. These nutshell methods conveniently assume the skill they affect to impart, and, consequently, are hard for common folk to crack. More elaborate methods claim to ensure success if you only succeed

in succeeding. If you do not succeed, the individual is to blame, not the system, which is infallible. It has already been remarked that every system of teaching worthy the name must assume in pupils the existence of certain potential capacities that can be developed. So every teacher is a psychologist, or at least he ought to be if he is worth his salt. It is far from my intention to discuss or advocate any particular method. I design simply to endeavour to tabulate the faculties which all methods assume their pupils to possess in a greater or lesser degree. I propose to omit all reference to rhythm and to confine myself to the relationship of musical sounds to one another.

WHAT IS SIGHT-SINGING ?

Sight-singing is the ability to conceive with the mind and execute with the voice musical effects indicated by musical notation. Practically, sight-singing is an act of memory. The notation having been duly associated with musical effects induces a conception of musical material previously observed and memorised.

Any investigation of the psychology of sight-singing must at the outset involve reference to the whole behaviour of the mind to musical effects. Listening to music involves :

- (1) The observation of what is heard at any given moment.
- (2) The recollection of what has been just previously heard.
- (3) The comparison of what we hear now with what we have recently heard.

These mental processes are automatic and unconscious. The comparisons made in this way between different sounds result in the realisation of what we call relations. This power of memorising and realising relations is absolutely essential to the appreciation of the most elementary music. Persons who do not possess it are hopelessly unmusical. They belong to that well-known class of the community, many of whom preside at musical functions and who take pains to state that they do not know one tune from another.

But sight-singing makes greater demands than mere listening. This is obvious, for in listening, the material (a convenient, although not a precise word) to engage our mind's ear comes ready-made from the outside, whereas in sight-singing the force of imagination or conception has to summon material from within. But although they are thus differentiated the mind process is much the same.

PITCH MEMORY—PERMANENT AND TEMPORARY.

It was stated above that one effect of listening is the impression of absolute pitch made on the memory. The power of retaining a pitch varies greatly in individuals. Some persons, no doubt many in this room, can permanently remember pitch and associate pitch names with sounds. This permanent sense of absolute pitch is not essential to the appreciation of music, because music, as we all understand it, consists of relations. The permanent sense of absolute pitch, however useful in some circumstances, is then dispensable, and fortunately so, for if it were otherwise music would be the art of the select few, instead of being, as it is, the art of the many. As to the sight-singing value of this sense, remarks will be made later on. But the power of temporarily memorising absolute pitch is a different case. *It is this temporary memory that is the first essential of a musical ear.* You cannot compare if you cannot remember. All musical effects are based upon the assumption of the existence of this power in listeners and singers. A piece of music, or movement, ends in the key in which it begins in obedience to this sense. All musical form is based upon the assumption that the ear remembers and expects. Much stress must be given to this capacity to memorise pitch temporarily in considering the problems of sight-singing.

THE COMPARISON OF PITCHES.

As stated above, the automatic comparison of pitches results in the realisation of relations of sounds. Two distinct, and, for the sight-singer, highly important kinds of relations are observed by the mind. One is the effect of the step or leap from one pitch to another—i.e., the Interval. Every interval has its own specific effect. It may be modified and disguised in various ways, but it still retains enough of its own peculiar effect for identification by the educated ear. This interval effect then is wholly derived from the comparison of one pitch with the last heard pitch. The other kind of effect is the result of the comparison of a pitch with all that can be recollected of what has gone before. In a series of duly ordered relations this sense of manifold relations is the key-sense—that most marvellous faculty of the mind by which we collate effects and colour sounds as tonics and dominants, &c. Each degree of the scale gains a property, or mental effect, or colour, compounded of its observed relations to *all* the other degrees, and not merely to the pitch just previously heard, as in the case of an interval. This key-sense is often called

key-relationship. But the term is not a good one, because it suggests the relations of various keys to one another instead of what is intended—viz., *relationship of a degree of a scale to every other degree of the series.*

SUMMARY.

The results of the power of the mind to observe, memorise, and compare musical sounds may then be briefly summarised under the following heads:—

- (1) The memory of absolute pitch:—
 - (a) Permanent (rare and dispensable).
 - (b) Temporary (universal and indispensable).
- (2) Interval effects (apart from absolute pitch or of position in a scale).
- (3) The key-sense. Effects derived from position in a scale series.

I think these are, roughly, the chief psychological data with which we have to reckon in teaching sight-singing. How to develop and utilise these potential faculties is the problem of a sight-singing method. I now propose to discuss these data in detail.

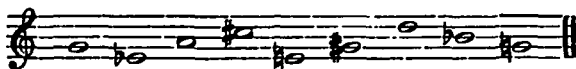
THE PERMANENT MEMORY OF ABSOLUTE PITCH.

First as to the permanent memory of absolute pitch. If it were possible to enable singers to easily acquire this special sense it would be wholly unnecessary for sight-singing purposes to spend time in cultivating any other musical faculty. We should become simply living pianoforte keyboards upon which our imagination could play at will. Sight-singing would then become practically the same thing as the performance of a familiar air. There would be little or no conscious constructive strain. Whether it is probable that civilised humanity will ever universally evolve this capacity is doubtful, but, without concerning ourselves about posterity, it is obvious that only a small proportion of the present generation, even of those individuals who devote considerable time to the practice of music and who strive to permanently remember pitch, are able to claim possession of the "sense." It may be said that a large proportion of musical students would develop the sense if they began the study early and pursued it resolutely. It also may be pointed out that nearly all the sight-singing methods of the day make little or no endeavour to train pupils to acquire this sense, and that this accounts for the rarity of the accomplishment. This argument reminds one of the special

Providence which has benignantly made the rivers run near the large towns. The real truth of the matter is that methods are popular because they are feasible, and they are feasible because they are born of an insight into common capacities. They indicate the line of least resistance. The cultivation of the sense of absolute pitch is good for students and musicians generally; but in view of the present condition of the average civilised brain ear it is impossible to avoid the conclusion that it would be irrational to base a sight-singing method, designed for popular instruction, upon an assumption that such a sense could be universally developed in the time and under the circumstances in which the great majority of singing pupils have to learn. We must, therefore, look in other directions for the most useful psychological bases upon which to construct sight-singing methods.

As an addendum to the foregoing I may state that in the R.A.M. sight-singing classes the cultivation of the absolute pitch sense is steadily pursued. There is nothing to be said against this. The students there are a select body, they give all, or nearly all, their time to music, and they are in every way fit subjects for such teaching. As a result, many of them emerge from the training with a full possession of the pitch sense.

[Two R.A.M. students—Miss Harding and Miss Elsie Horne—were present to illustrate sight-singing by memory of absolute pitch. Miss Harding sang the following test at sight quite fluently at the correct pitch without any sound being previously given]:—



THE TEMPORARY MEMORY OF ABSOLUTE PITCH.

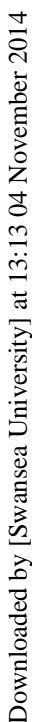
The place the faculty of temporarily memorising absolute pitch occupies as one of the resources of a sight-singer is not generally sufficiently recognised.

When we say that a key is established in the ear, we mean partly, if not wholly, that its absolute pitch is memorised. In practice I think it cannot be doubted that even the elementary sight-singer, after a preliminary canter in the key, hits its various degrees neither exclusively by measurement of interval nor exclusively by recalling mental effects, but chiefly by sheer memory of absolute pitch. The memory is, as it were, temporarily indented with the pitches of the scale degrees, and the will has but to select the rut. Sometimes this memory is exclusively drawn upon, and especially

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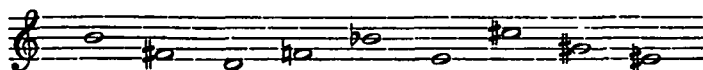
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vibrational ratio of the two pitches is constant. But it is necessary to point out at once that the difference between an interval, the two pitches of which are heard simultaneously, and the same interval when the two pitches are heard in succession is considerable. In the case of the simultaneous presentment there is no demand made upon the memory and the specific effect is sharply defined. A major third (isolated) is easily felt to be sweet and full, a perfect fourth as ghastly, and so on. But a melodic presentment of the same intervals is but a fleeting adumbration of the harmonic effect. Hence it is difficult for singers with ordinary capacity to sing entirely by interval measurement. My own observations lead me to conclude that the possession of musical capacity to memorise intervals and to sing at sight by this means alone is somewhat rare. It is, however, not nearly so rare as the capacity to permanently memorise absolute pitch. Only really good students can gain a useful control of the interval sense. Personally, I have always regarded the practical study of interval effect as necessary to the complete equipment of the advanced sight-singer, but it should only be attempted after considerable skill has been otherwise attained.

Many methods of sight-singing begin with lessons on intervals, and are mainly founded throughout on interval observation. The fixed *doh* method, as taught in this country by John Hullah, is a noteworthy example. I do not think the teaching of absolute pitch was seriously attempted by this method. Certainly Mr. Hullah had no intention of teaching absolute pitch. The reason for the failure of the method to make sight-singers, was that it over-rated the capacity of the vast majority of the pupils whose musical salvation it aimed to provide. The result of this optimistic experiment proved that the average man is not musically saved by intervals alone.

[One of the R.A.M. students, Miss Elsie Horne, now read by interval observation the following test]:—

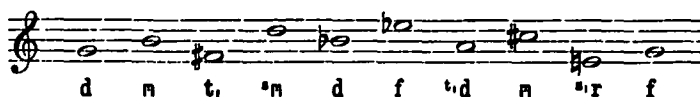


INDIRECT INTERVAL CALCULATION.

One indirect plan of interval calculation is found to assist advanced singers whose habit it is, as a general rule, to draw only upon mental effect. The interval being discerned in the notation as a major third, &c., the next step is to quickly call up the most easily conceived scale degree model and then to

apply it to the execution of the interval regardless whether or not the scale degrees thus summoned truly represent the prevailing tonality. Experienced singers find that this power of banishing considerations of proper tonal relations and resolutely conceiving an interval, it may be in a totally wrong key, a most valuable resource when they are cornered in tracing a modulation.

[The children now sang the following test, using the sol-fa syllables as noted]:—



MENTAL EFFECTS OF THE DEGREES OF THE SCALE. THE "PROPERTIES" OF SCALE DEGREES.

I have just described melodic intervals as having somewhat weakly defined specific effects and, therefore, as being difficult for average pupils to freely memorise and reproduce. But there is another difficulty in the way of interval conception—namely, the greater sensitiveness of the ear to the effect derived from the position of a sound in the scale series. This effect constantly engages the attention and obscures or absorbs the interval effect. This faculty of conceiving sounds by memory of mental effect is the one most universally possessed. By this means, coupled with the temporary memory of absolute pitch, the immense majority of choralists, for better or for worse, now accomplish all their sight-singing.

I believe it was a Frenchman named De Berneval who first drew particular attention to the peculiar and distinctive effects the various degrees of the scale gain, by our power of collating the relation of each degree to all the others. He did not merely state the fact as an interesting one to musicians, but he realised its importance in the education of the beginner. His book, which is entitled "Music simplified, or a new method to propagate the study of music," states that he was a Professor to the Royal Academy of Music. It was apparently published in France before it was published in London, because it is stated that it is translated from the French by E. W. W. G. Honseal, Esq. But it may have been translated from the manuscript.

Of course this sense of effect was utilised long before De Berneval wrote. The sol-fa systems employed before his time were nearly all on the movable "doh" principle, and must have assumed this sense, although there was no expressed recognition of it in their teaching to define it.

As stated above, the theory of mental effect is that each degree of the scale derives a particular property or colour from the power of the mind to observe its relations to the other degrees of the scale. Although this effect may be partly disturbed by conflicting circumstances, it holds the field pretty securely while the key is not threatened. The singer is perfectly independent of the observation of interval and is generally quite innocent of any theoretical knowledge of intervals. The influence of the last note sung may sometimes be strong upon the note to follow, but he goes for the note to be sung in disregard of this and simply endeavours to recall the memorised effect. I have already as much as said that owing to the irrepressible play of our natural faculties no one method of going from pitch to pitch can exclusively be adopted. I have also pointed out that the singer by mental effect cannot help being so influenced by his temporary absolute pitch memory to a degree impossible to trace. The two powers are, in fact, habitually welded into one, after a key is established, or, in other words, memorised.

THE LAW OF ASSOCIATION.

The power of our minds to associate names with things or ideas of things is so well known it is unnecessary here to dwell upon the general application of the principle. Has it been on the whole good for musical progress that centuries ago names were employed as mnemonics of the effects I have just been describing? Some would answer this question with an emphatic negative, but whether for ultimate good or evil the practice of so using syllables or names now permeates the greater part of the sight-singing teaching in this country.

It is beyond my present purpose to discuss fully the advisability of utilising this alluring power of our minds to associate musical effects and names. I am content now to record its existence as a sight-singing resource and to point out some consequences of its employment in sight-singing methods.

One of the most extraordinary results of this associative power is the astonishing speed at which it works with singers of ordinary capacity. It is quite common to find children who have been taught on this method capable of singing at sight at the rate of about 160 notes a minute. But the key must be constant, or, if modulations are used, they must be easy.

[The children now sang at sight from pointing on a tonic sol-fa modulator at the rate of about 160 notes per minute.]

Then it must be noted that unless you are dealing with picked pupils one condition is that they must be permitted to utter the syllables or the bond between them and the sound will be snapped. Experience shows that the mind, through the eye only, cannot so quickly conjure up the sought-for effect as it can when the syllables are uttered, because the built-up association so co-ordinates the muscular action called for in saying the name, that if the latter is suppressed the door to the effect is shut, or at least it is much more laboriously and consciously opened. The syllables impressed as slaves mock the singer as masters. The moral of this is that from the early stages and throughout the course, pupils should be trained to frequently use the syllables as thought mnemonics that need not to be uttered in order to work their magic. Very strong protests are sometimes made against the principle of associating names and musical effects. I quote two which are typical of two points of view, although they agree in result. The first is from a thoughtful teacher, Mr. Samuel Cole, who has had a large practice in schools in the United States. The extract is from a paper on "Thinking sounds directly or indirectly," which was read in the States at an important conference of school music teachers. The paper appears in full in the December, 1896, issue of the *School Music Review*. Regarding the movable doh method, as applied to the staff notation, Mr. Cole says:—

"What wonder that the best musicians have repudiated such a method and that nowhere does it prevail except in America? (In making this statement I do not forget the tonic sol-faist, to whom this paper does not apply.) Here it has held sway for three-quarters of a century at least—two generations and a half—and how much facility in thinking sounds has it produced? How many musicians outside the ranks of the public school service do you know who read music by this system? I cannot name one, and I never saw an amateur musician or a public school music teacher who would not have been a better music reader and a better musician if they had never come in contact with it. I was thus taught the scale when very young, and as I grew older I thoroughly mastered every detail of it and even learned the time names, so that I can even now sol-fa or tā-tā or tā-zā fā nā with fluency; but I am compelled to admit that my musical abilities and sensibilities have been injured by it beyond repair."

It will be seen from this extract that Mr. Cole objects altogether to any use of syllables. His statement that teachers and singers would have been better readers if they had not been brought into contact with the sing-syllables

method implies that there is another and a better way. He is now trying to do entirely without syllables, and I await the result of the experiment with interest.

The other opinion is one frequently quoted in America and in England. Mr. Theodore Thomas says :

"I consider the system at present followed in this elementary instruction, called the 'movable doh' system, fundamentally wrong, and experience has confirmed me in this opinion. It is a makeshift invented by amateurs. Pupils should learn something about the absolute pitch of tones instead of merely their relative pitch. The 'movable doh' system shuts the door against this knowledge. . . . In my experience, those who have learned to read music according to this method never free themselves from it."

I quote both of these opinions without meaning to state that I agree with them.

I think Mr. Cole's experiment of teaching scale relations without using syllables will be found insuperably difficult in most quarters where sight-singing is taught, and that Mr. Theodore Thomas's recommendation to teach absolute pitch, or, as he says, "*something* about absolute pitch," to everybody is an impossibility in the existing circumstances.

The syllables used as scale degree mnemonics, with all their faulty results, are apparently still on the whole the only possible method for the great majority.

[The children here sang simple phrases at sight to words. They showed much less facility than when they uttered the sol-fa syllables, and they were often uncertain and sometimes incorrect.]

THE KEY-SENSE.

One of the greatest difficulties of the sight-singer is the performance of modulation from key to key.

The movable dohist, singing from the ordinary notation, is beset with a twofold task often of great complexity. First there is the notational difficulty. If he is dependent upon the syllabic association of scale degrees he may be puzzled, even if he does not find it utterly impossible at times to theoretically determine the key and, therefore, the scale degree he ought to think of. This is a mental difficulty, it must be admitted, but it is a matter of theory, and, therefore, outside the scope of my subject. Assuming that it is abundantly clear what key and scale degree is asked for in a key transition, the psychological difficulty of conceiving the sound has still to be faced. The thralldom of the memory to a key once established is often strong. The mind has not

only to throw off this thralldom, but has also to re-conceive the scale from another tonic. A good capacity and much systematic practice are essential to success in this endeavour. Some changes of key are easier than others. The law of difficulty may be roughly stated as follows :—

A new key is easy if its tonic is one of the old scale degrees farthest off the old tonic (upper and lower).

And conversely—

A new key is difficult if its tonic is anywhere near to the upper or lower old tonic.

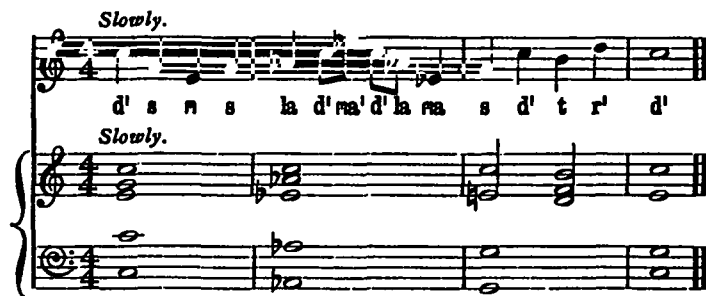
Keys F and G are the easy changes from key C, because the tonic of either of these keys is as far as possible away from the upper and lower tonic of the old key.

Keys D and B are typically difficult changes from key C, because the new tonics and other scale degrees are close to the old tonic and corresponding scale degrees. Another explanation is that a key change is, in a general way, more or less difficult, just as it calls for more or fewer new pitches. The memory of the absolute pitch and the memory of the mental effect of the old scale degrees cling so tenaciously, it is often extremely difficult, especially in an unaccompanied melody, to settle down into the new key.

These changes illustrate the unwillingness of the ear to throw off an established key. But we have also to reckon with quite the reverse willingness in instances where the circumstances are different and peculiar. The mind is apparently always hankering after a tonic, and if it cannot recollect one and relate to it a present note or chord it will seek a key tone or tonic in what it has most recently heard. The readiness to forget the last established tonic is now as remarkable as the tenacity with which, in other circumstances, the memory clung to the old tonic.

When a chord is struck the immediate effect is derived from the observed relation of the sounds to one another plus the relation of the whole chord to what has preceded. But as the memory of the past becomes weak, it is ousted by the prominent present, and a new tonic is sought for in the chord itself. Every major common chord, however approached, is therefore soon regarded as a major tonic chord, and every minor common chord as a minor tonic chord. This fitfulness of tonality is often a source of difficulty to sight-singers, especially when they depend wholly upon mental effect for their sight-singing. A series of notes appears to the eye to be in one key while their mental effect suggests their closer relation to another key. In such cases the use of the sol-fa syllables of the theoretical key are a hindrance rather than an aid.

ILLUSTRATION.



The endeavour of the ear to find some acceptable relation between what is heard at one moment and what is memorised of previous sounds, is aptly illustrated by the effects of chromatic chords. The momentary intensity of such effects is striking, but this intensity rapidly melts away. The ear, we may suppose, relates the notes to the key last established, and yet is quickly willing to find amongst the notes of the chromatic chord a new tonic or the suggestion of one. But, meantime, the chord has a *nuance* of effect entirely of its own. Chromatic notes are one of the sight-singer's supreme difficulties, because their relation, and, consequently, their effect, is often vague.

IMITATIVE POWER.

I have now discussed the chief means by which sight-singing is accomplished. To give something like a complete survey of the subject it is necessary to make some reference to some other and subordinate considerations that affect the sight-singer. First, I comment on the remarkable power possessed by persons of almost any musical capacity of quickly imitating what they hear. One voice can carry along a great number of others and the general result is a tolerable unanimity. Congregational singing is often—too often—of this imitative type. I suppose that, things being as they are in the world, we should be thankful that it is possible for uninstructed singers to follow a lead in this way. But in the sight-singing class the use of this faculty is often a decided disadvantage, because it is so cruelly deceptive. A choralist may sing in a choral society for years and flatter himself that he can sing from notes because he looks at them, when, as a matter of fact, he has probably never once inwardly conceived a single sound at sight from notes, but merely imitated others around him, or probably the omni-present pianoforte. We are all

familiar with the choral society candidate who can sing very well from notes "with the others" or provided he or she may sit beside a certain real sight-singer.

[The children here were asked to follow with their voices musical phrases sung by Dr. McNaught. The result was a practical unanimity.]

THE MEMORY OF APPROXIMATE PITCH.

The memory of approximate pitch is 'useful as a general guide to locality. In choral part-music a singer can often successfully hit a required pitch in this way. The pitch sought for is probably one suggested by the other notes of the chord, and this also attracts the singer's shot. Some choralists who have no other conscious resource depend greatly upon this memory, and are often lucky in lighting upon the required pitch whilst others are fumbling and stumbling. But by itself this method is too vague for general use. It is simply a useful supplementary aid.

ASSOCIATION OF THE MEMORY OF MUSCULAR TENSION WITH PITCH.

The memory of muscular tension can, to a limited extent, be associated with pitch, especially at the extremes of the compass. A singer will tell you that he knows how this or that pitch "feels in his throat." This ability must not be confounded with the ear sense of absolute pitch, because the latter is purely a brain memory of sound. Occasionally, the memory of muscular tension is embarrassing. This is the case when music is sung in a different key from that in which it is printed. The singer has to resist his conscious memory of tension.

A similar difficulty is also experienced by many singers when memorised music is sung in a different key from that in which it has been hitherto practised. The embarrassment in both of these cases may also be partly caused by the ear memory of approximate pitch.

KEYBOARD MEMORY.

Pianoforte and other keyboard players are sometimes assisted in sight-singing by a mental reference to the keyboard. To some extent this is a pitch memory, but it is more often unassociated with this sense. It is more of an interval memory. It is clear from universal experience that only a

small minority of keyboard players acquire this memory. The great majority do not seem to derive any memory available for sight-singing purposes from their daily plodding and pounding. This is because they get no practice in conceiving sounds before they perform them. The rank and file of pianoforte players are, therefore, generally very indifferent sight-singers.

THE PICTORIAL SUGGESTIVENESS OF MUSICAL NOTATION.

Although it is true that musical sounds move neither up nor down, it is clear from abundant experience that singers of all grades very readily associate through the eye movements of this description with successions of sounds from grave to acute, or the reverse. Every method of sight-singing utilises in some degree this easily acquired association. But whilst fully recognising this instinct, it is worth while to record here that up and down movement to the eye and the ascribed up and down movement of sounds to the ear are not a necessary and absolute connection.

I suppose no pianist is conscious of embarrassment when, say, his right hand descends a scale passage, and, therefore, moves from *right* to *left*, whilst his eye and the notation travel from left to right. Here neither of the movements is imaginary, but obviously real. The fact is, useless associations, however apparently natural, have a tendency to eliminate themselves, and, therefore, give no trouble. Much the same result arises with a singer trained on the mental effect method and not in the habit of measuring intervals as such. He can sing pretty fluently from horizontal representation, if the notation will allow of the arrangement, or even from an upside down arrangement.

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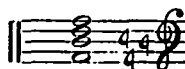
qos

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,qop

[The children here sang quite freely from a tonic sol-fa scale turned upside down, as shown on the margin, and they also sang as freely from pointing on the staff inverted as below—



after being told that the top line was the low "doh" and the first space the high "doh."]

But there can be no doubt that the customary pictorial association is the most natural one. It is far too readily

realised as such by indolent "sight-singers"; so much so, indeed, that in a great number of cases it is the only resource utilised. Conductors of choral societies everywhere groan under the burden of having a considerable section of members who habitually depend upon this sense of contour. An individual examination of the powers of such singers generally affords convincing proof of the utter inadequacy of the "method." Coupled with other more exact sight-singing resources, the apparent sympathetic movement is a real assistance, but, used alone, it is far more harmful than useful, because it instils a fatal habit of rough guessing.

THE OPTIMISTIC METHOD.

Still another scheme of practice for sight-singing must be mentioned for the sake of completeness and because of the number of its votaries. Many teachers and would-be sight-singers appear to adopt the theory that if for a number of years you perseveringly practise singing whilst looking at notes a happy instinct of reading will be evolved. There is no doubt that some of the practitioners of this simple faith do emerge from the process with a fair and useful skill, but the greater number are examples of its fatuity.

CONCLUSION.

From this cursory and, I am afraid, imperfect survey of the psychological resources available for employment in sight-singing, it is easily seen how wholly subjective these resources are. Most good sight-singers are compelled to use a combination of means. The choice depends upon the method employed and the capacity and opportunity of the individual. But on any method only a few succeed in becoming absolutely first-rate sight-singers. The immense majority are brought up a few rungs of the ladder and are often content to remain there. They find their knowledge sufficient for their needs, or they are too indolent to acquire more skill. Or it may be they are without incentive to advance, for they find that conductors are delighted to have them if they can but read a simple hymn tune at sight. So they join the choral society, and at once rehearse "The Spectre's Bride."

The processes by which an advanced sight-singer works are probably in the end beyond analysis. They are not conscious processes but instincts, if I may so describe them. Many singers work too exclusively at the development of one set of faculties. Thus the movable dohists (in which are

included all tonic sol-faists) are generally far too dependent upon the sense of tonal relation or mental effect and are, therefore, liable to be upset when the key is vague. I do not say this censoriously. The circumstances under which the vast majority of pupils learn movable doh methods preclude the possibility of much more being done. We have to be content with a certain degree of progress. But we must not claim this as perfection and finality. Then as to the singer by interval effect alone. Unless he possesses unusual capacity he finds himself continually distracted by the chameleon-like changes effected on intervals by the tonal relations of the notes.

The fully-equipped sight-singer must be a musician of considerable natural capacity and attainment. If he can easily command the permanent memory of absolute pitch he may not need any other resource. He may, however, find this sense inconvenient when called upon to perform a pitch to which he is not accustomed. If he does not possess this sense he needs to have a retentive temporary memory of absolute pitch, a keen perception of the effects of the scale degrees, complete independence of the utterance of associated syllables, and the ability to sing intervals apart from knowledge of their true key context.

DISCUSSION.

THE CHAIRMAN.—Ladies and gentlemen, we have listened to a very interesting and instructive address, which I regard as a valuable contribution to the philosophy of music. Dr. McNaught incidentally alluded to the real difficulty of some of the so-called *simple* methods put forth by enthusiasts. He and I have had a lot of experience together during the last fifteen years of these processes of teaching the art of sight-singing. Some cards once reached us with a diagram of the staff and keys on them at an hotel where we were staying. We pored over these for about half-an-hour; at last I said to him, "Can you make head or tail of these?" and he replied, "No; can you?" and I was obliged to admit that neither could I. I was very much struck also by his remarks about people who had ears being able to sing at different pitches. I remember at Vesuvius a lad hanging about me pretending that there was an echo. So he made a sort of Swiss "Yodel," and then hummed it with closed lips at the interval of a fifth

below. That is a true and very interesting case showing that he confused pitch and force. I should also like to be allowed to tell you one little experience of mine about muscular memory of pitch. Some years ago when the Albert Hall Choral Society was getting up Beethoven's great Mass in D, Barnby asked me if I would mind transposing it at next practice. I did so; as you know this is not an easy task. But every time the tenors came to the top G or A they went to the Albert Hall pitch. At last Barnby said to me: "I am very sorry to have given you so much trouble, but you see they cannot get out of their minds the old pitch." The memory was really in their throats; the tenors had got accustomed to a certain musical effort.

Mr. W. H. CUMMINGS.—I have been extremely interested in Dr. McNaught's paper. It gives us much food for thought. One point he emphasised which my experience has taught me in recent years should be borne in mind—that is, the tyranny of the syllables. I find that people who carry the practice of singing from syllables too far eventually cannot possibly do without it. I have found admirable singers from the staff notation all right when they used the sol-fa, but when they had to leave it off they were of no use at all. I venture to differ from the lecturer as to what future sight-singers will be. I believe by-and-by, through culture of children beginning early, they will sing from absolute pitch. I know in Canada there are some Kindergarten classes that are being taught by a very energetic lady. I have seen how, by giving the children objects on the table representing d's, e's, f's, &c., she gets them to learn the notes on the pianoforte as truly as one can teach them with the finger. I do not think it will come in my time or in your time, Sir John, but I do anticipate a time will come when singers will be absolutely free from systems which all have some weakness about them. Undoubtedly the best sight-singer is one who has a natural gift for pitch and has studied harmony; there is no doubt he can sing anything at sight. I may add one reminiscence. I remember when I was a youth I was very glad to get every possible opportunity of accompanying good singers, and once being asked to accompany songs at a club that no longer exists, Adam Leffler sang a song in which, according to the fashion of the day, a tremendous cadence was introduced. But he forgot where he was. The song was in D and I found he had got into E flat, and I wondered whether I should play the tonic and dominant of the proper key or play in E flat and say nothing. I did the latter. Leffler came and patted me on the head and told me I had done admirably.

Mr. VENABLES.—One thing that strikes me in connection with the idea that we shall ultimately all be able to sing by absolute pitch is: What shall we do when the pitch varies

in the future as much as it does now, and as much as it is always likely to do? I conceive it must be a very laborious thing for anyone who sings from absolute pitch to accommodate himself to all the varying pitches one meets with in the course of his musical experience in going from one concert-room to another and from one drawing-room to another. The pitch is constantly varying, and though they may start from the sense of absolute pitch they must of necessity drop into relative pitch, or else go into oriental scales to accomplish changes of less than a semitone. It seems most unlikely that a whole nation can be trained to sing from absolute pitch, because it is not a fixed quantity. In different instruments the pitch will be constantly varying some degrees, and therefore the difficulties of keeping to one standard must be very great. Perhaps I speak from prejudice, because my own sense of absolute pitch is not very keen; but I have at least some sense of absolute pitch. If I look at a piece of music and start with thinking much about it I almost invariably find myself in the correct key according to the old Philharmonic pitch—I have not got accustomed to the new yet. But if anyone asked me to sing the examples written on the blackboard from absolute pitch I should fail inevitably. So I have a sense of absolute pitch, but not one that is of use in sight reading. These things vary a great deal in different individuals, and I dare say it may be that in my young days, and, in fact, throughout my life, I have never paid special attention to cultivating it. I was taught from the staff, as a choir boy, by Mr. John Turner, who wrote a book and taught upon the tonic method before Dr. Hullah introduced the fixed do method. So my whole experience has been that of key relationship and not of fixed pitch; and, personally, I should never think of trying to teach by any other means than that of key relationship.

Dr. SHINN.—With reference to the sense of absolute pitch referred to by Dr. McNaught, there seems to be a good deal of misconception prevalent on this subject. Some time ago I made considerable investigation into the nature of this particular power, and as a result I came to the conclusion that it was a memory for attaining definite pitch, and its possession by individuals was due to, and varied with, the sensibility of the ear. I doubt whether it has that special character which some seem to attribute to it. As with our other powers, so the ears of different individuals exhibit every degree of sensibility, from that possessed by one who cannot distinguish more than one or two tunes to that possessed by a Richter or a Mendelssohn. With regard to the muscular memory referred to by the lecturer, this seems to coincide with the same form of memory employed by the pianist, and other instrumentalists, and commonly, though incorrectly, described as "finger memory."

By frequent repetition one gradually acquires the power of performing a series of movements automatically. This power of automatic movement, due to merely sensory stimulation, has been known to have continued after the individual has become unconscious, as has been exemplified by a reporter in the gallery of the House of Commons who continued to take down a speech after he had fallen asleep.

Mr. W. HARDING BONNER.—In teaching beginners (I am not speaking of advanced singers) I am convinced that the old Italian syllables are a far greater help than figures. I have tested it, and in order to test it thoroughly I attended a class taught by Dr. Sawyer not long ago, and I find that figures are not so great a help to children as the syllables. The words one, five, three, &c., do not of themselves make us think of musical sounds. We speak of one chair or five horses; but directly anyone says do, re, mi, fa, &c., everyone knows those names are so closely connected with musical sounds that they do not lead one's thoughts away to anything else. I think friends who have taken classes will find they get on better with the old Italian syllables than with figures.

Mr. LANGLEY.—What effect has this sense of absolute pitch on singing accurately notes that differ only enharmonically? Would a person who has a sense of absolute pitch sing those notes absolutely the same? Suppose you had F, E flat, E sharp; would the singer return to the first note at the same pitch?

The CHAIRMAN.—If they had been trained to sing an enharmonic scale they would probably sing it truly, but none of us have been trained to that. But we have all got so accustomed to tempered scale that I do not suppose there are half-a-dozen people in the world who could sing in just intonation. There was a German violinist with whom I had been discussing this question after one of the Three Choir Festivals. I said I had no doubt that fine violinists played the common chords more truly to the just scale than they are given us on the pianoforte. But I said, "When you come to modulations, which we have in such enormous quantities, you do not make so much difference." He said, "I do not agree with you a bit. A good violinist will always make a difference." I said, "If you are in C, which would you make higher, G sharp or A flat?" "G sharp," he said, which is the reverse of what just intonation demands. Nevertheless, I think if people had been *taught* to sing an enharmonic scale they might perhaps sing it correctly from absolute pitch.

Mr. W. H. CUMMINGS.—The violinist ought to make G sharp sharper than A flat. Singers are taught that G sharp is the higher, because it is a leading note.

The CHAIRMAN.—Yes, the leading note is an arbitrary pitch. The proof of the difference in just pitch between G

sharp and A flat can be popularly demonstrated thus: As our major thirds are too large on the pianoforte, if we start from C, E should be flattened as its major third, and G sharp should be flattened to the already flattened E, as *its* major third. G sharp has therefore descended. But A flat is a major third below the C above, and as C (being an octave) cannot be altered, the A flat has to be raised nearer to the C to get a just third. The G sharp has therefore gone *lower* than in the tempered scale, the A flat *higher*. Sir Frederick Ouseley, my friend and patron, had a wonderful sense of absolute pitch. He of course did not do what so upsets us. He did not hear instruments of different pitch every day. When I came to London I heard one pitch at the Albert Hall, another in St. Paul's, and a third in my own drawing-room. One remarkable story of his memory of absolute pitch is recorded. He went away from England to travel in Italy. On his return he visited St. Paul's, and after the service he said to Sir John Goss, "Whatever have you transposed that Service for?" Sir John Goss said he had played it just as it always had been played. "No," said Sir Frederick Ouseley, "you played it a semitone higher." The explanation was that the organ had been transposed a semitone higher (the pipes having shifted down a semitone) while he was away. He was not aware of the change, but he recognised it immediately by his memory of absolute pitch. I know this once happened in his own chapel. The organ was out of order: the bellows broke down in the middle of a service. He saw a man bringing in a small £5 harmonium. He knew it differed a semitone in pitch from the organ, and he deliberately sharpened his intonation in the prayer, so that when the man played the Amen for the choir he was in correct pitch with it.

You have had such a good evening that I think my paper, which was announced to follow, had better keep till some future meeting. So we must now conclude with our very best thanks to Dr. McNaught for the very valuable and interesting paper that he has given us.

The vote of thanks was passed unanimously.