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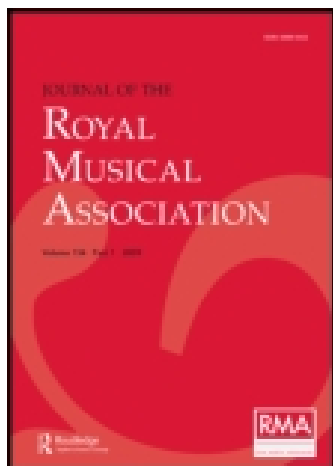
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ON BEAUTY OF TOUCH AND TONE: AN INQUIRY INTO THE PHYSIOLOGICAL AND MECHANICAL PRINCIPLES INVOLVED IN THEIR CULTIVATION

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FEBRUARY 7, 1881.

W. H. MONK, Esq.,
IN THE CHAIR.

ON BEAUTY OF TOUCH AND TONE: AN IN-
QUIRY INTO THE PHYSIOLOGICAL AND
MECHANICAL PRINCIPLES INVOLVED IN
THEIR CULTIVATION.

By A. ORLANDO STEED, Esq.

PART II.—THE PIANO AND ORGAN.

IN most instruments the quality and variety of sound is so directly traceable to a difference in the way in which the motive power is applied, that it does seem but natural to suppose that the *timbre* of the pianoforte is amenable to similar influences. We need but listen to the first attempt of a learner to the violin, for example, to be convinced how entirely the *timbre* of the instrument is at the mercy of the performer; and although it is remarked commonly enough that beginners on the piano are not nearly so annoying to their hearers as those on most other instruments, still the unsatisfactory result of their first awkward attempts not unnaturally gives some colour to the very general impression that the actual tone of the piano depends upon the way in which the keys are struck. It is my belief, however, that this opinion is false, and that not only because by direct experiment I have myself failed to alter the *character* of the sound, *unaccompanied with a corresponding change in its intensity*, by any variety in the mode of striking the key which I could devise, but because a theoretical consideration of the matter must, I think, convince one of its utter impossibility. Thanks to the researches of Helmholtz, we are now provided with all the necessary knowledge of the principles which regulate the quality of the sounds of most musical instruments, and that of the piano has been clearly enough explained by him. I must not occupy your time by detailing the results of his researches—suffice it that every source of difference *save*

one lies entirely within the domain of the manufacturer, and just as completely without that of the performer. The shape, size, weight, and hardness of the hammer; the place at which the string is struck; the density, rigidity, and elasticity of the string—all these are matters over which the player has no control whatever. The only exception to be found lies in length of time during which the hammer remains in contact with the string, in comparison with the periodic time of the prime tone. Helmholtz shows that the upper partial tones increase in intensity according to the rapidity with which the hammer quits the string after impact. He, indeed, gives a table illustrative of this for certain notes, which presents at a glance the relative intensities of the upper partials in cases where the hammer remains touching the string during three-sevenths, three-tenths, three-fourteenths, and three-twentieths of one vibration of the lowest partial, and thence demonstrates that the natural *timbre* of the instrument varies gradually from the lowest to the highest notes of its compass. He has not adverted to the fact that the quickness of rebound in the hammer must depend upon the force with which the key is struck, nor upon its consequence, that increased richness in the upper partials will therefore be accompanied by an increase in the loudness of the sound.

The same distinguished authority has also pointed out that in proportion to the hardness and sharpness of the edge of the hammer, so will the force of the upper partial tones be augmented; and not only so, but they will actually be produced before the prime tone has had time to sound. These two hints are all which he has given towards the solution of the question before us, but from the first of them we may I think gather that the only change of *timbre* of which the piano is susceptible is concomitant with and proportioned to a change of intensity. From the latter it would appear that on pianos with hard sharp hammers sounds which are of very short duration—i. e., damped in the very moment of production, will be more shrill and tinkling in their character than when their full tone is allowed to develop itself before the damper falls, while on those with very soft and broad hammers, the direct contrary will be the case.

If an alteration of the leverage of the key, a change in the weight, shape or hardness of the hammer, or a shifting in the point of contact with the string could be effected at the will of the player, then and then only could we secure a variety of *timbre*, independent of a corresponding difference of intensity; and we are thus driven to the conclusion that it is only by an excessive blow that a note of really unpleasant effect can be produced on the piano. I have indeed seen it stated that a jerky blow on the key would cause the hammer to strike the string obliquely, but that could only occur in an

instrument in which the mechanism was defective. In some of the older pianos, in which the hammer centre was too far from the string, a very slight excess of power would indeed cause the hammer to rake the string, and thus injure the tone: the facility for blocking afforded by the old actions, and the thin strings formerly used were all favourable to a deterioration of the tone when the key was struck by a careless or unskilful finger; but on the splendid models of the present day I think we may safely conclude that it is by excess of power only that the player can overstep the limits of the beautiful in tone, and that the angle at which the finger is placed upon the key is of no *direct* influence whatever upon the character of the sound.

Singers, and players on wind and stringed instruments, may to some extent evince their mastery of their art even in the production of a single sound, but unless the blow is so excessive as to produce such a clanging conglomeration of overtones as to be really disagreeable, the absolute *timbre* of a note struck by a tyro will not differ in any way from one played by a first-rate performer. Are we then at once to accede to the dictum of an eminent living pianist, who, when one of his pupils was rhapsodising upon the marvellous variety of tone in Rubinstein's playing, attributing it to the varied inclination of his fingers upon the keys, told him that he was altogether mistaken; adding "If I strike the piano with my elbow, an iron bar, or a broomstick, it will not produce the slightest difference in the tone"! In the mere sound of a single note this is undoubtedly true, but how about a combination or succession of two or more sounds? Surely it will require no highly cultured ear to distinguish, in the very simplest passage, between the playing of the beginner, the young lady who has had finishing lessons at a fashionable boarding school, the old-fashioned organist, the Rubinstein, and the elbows of the eminent pianist himself; and that not only when the effect is criticised as an attempted realisation of an artistic idea, but even as a matter of pleasurable sound alone. What then is the source of these manifest differences? I can but conclude that they are entirely the result of a more or less perfect appreciation, or, to speak more correctly, a more or less perfect control of the *subtleties* of rhythm—of rhythm in its twofold aspect of duration and intensity. Just as musical sound itself is a rhythm, depending upon the isochronous succession of its vibrations to distinguish it from mere noise; and just as its *timbre* results from the relative intensity of the partial tones of which it is composed, and from the interference with its perfect continuity by beats, and by such mechanical interruptions as are caused by the motor by which it is excited (*e.g.*, the inequalities on the hairs of a violin-bow); so that which we may speak of as the tone of the expert pianist, as distinguished from that of the novice, is the perfect

simultaneousness and equality in the chords, and the general continuity and regularity of the successive notes; while its individuality and character will be shown in the relative intensity of the various grades of accents, and in the frequency and extent of the silences by which it is interrupted. The pianist may thus be compared with the painter in monochrome, who, by his subtle control of form and of light and shade alone, is able to exemplify the varied aspects of æsthetic pleasure, and even to gratify us with no inconsiderable degree of sensuous charm.

I am well aware my opinion may be assailed on the ground that there are many players who, although their tone is eminently pleasing, are yet utterly guiltless of the power of keeping time. That, however, only goes to prove that they are deficient in regard to the coarser elements of the rhythmical principle, and not that the two things are essentially different. For my own part I am convinced that nine-tenths of the bad playing arises from the notion that "beauty of touch and tone" are a something distinct from, and which must be super-added to, the ability to keep time and mark the accent; instead of being, as I believe, absolutely bound up and included therein—as being, in short, the tactile embodiment and audible manifestation of the whole of rhythm.

This view of the matter is an evident simplification of the problem before us, which appears now to resolve itself into as easy a business as the art of fencing according to Molière: "Strike the notes at the right moment, with the right amount of force, and sustain them for the right length of time. *Voilà tout!*" If it were not for the persistency with which the little word "right" insinuates itself into every clause, the attainment of a beautiful touch would thus seem to present no great difficulties after all; and such I believe to be the case, so long as we keep clear of those which are connected with great force and extreme velocity.

Let us, however, consider the full meaning of this word "right" in each relation. It first involves a command of every degree of speed, from three or four to seven or eight hundred notes in a minute; next, according to Czerny, the control of at least a hundred degrees of loudness; and a complete mastery of every grade of cohesion and discontinuity between successive notes, from the semibreve rest to the immeasurable silences of the different shades of *staccato*, and thence to the overlapping of contiguous sounds in the slowest *legatissimo*.

I must, however, guard myself from the danger of misinterpretation concerning this comprehensive and exacting little vocable "right." Not for one moment would I have it supposed that in any one composition, or any one passage whatsoever, it is possible to indicate or to decide upon a fixed and

unalterable standard for any one of its rhythmical elements—for its loudness, its speed, its *crescendo* or *diminuendo*, its *rallentando* or *accelerando*, its *sostenuto* or its *staccato*. No dynamometer nor metronome can ever be invented which could be used as unerring guides in such matters as these. If it were possible, their employment for such a purpose would be, not simply the degradation, but the absolute destruction of all art. What I wish to imply is that the comparative beauty of touch and tone in any performance will depend upon the relativity of each note to all, and of all to each. An eminent organ-builder once told me that when he was inside one of his largest instruments, during the performance of several first-rate players one after the other, he could clearly distinguish their respective styles by simply watching the action, although the confusion of sound was too great for him to do so by the sense of hearing. I believe, indeed, that if it were possible to do for piano-players and organists what Helmholtz has done for clangs and chords—make them register their movements on a revolving cylinder or piece of smoked glass—the comparative beauty of their touch and tone would be clearly set forth in the symmetry and grace of the resulting curves.

Viewed thus comprehensively, the idea of the identity of beauty of touch and tone with perfection of rhythm is seen to cover the whole of the stupendous difficulties of modern pianism, as summed up in the word "execution"—a word of terrible import indeed when insubordinate to delicacy of gradation, and unrestrained within the lines of beauty and grace.

And this is execution—

All this hammering, pounding, banging?
A kind of execution, faith,
Almost as bad as hanging!

Happily for us, however, our present duty lies not near the Ultima Thule of pianistic possibilities, but with the consideration of the question whether the piano can be so taught as to secure to the pupil, in every step of his progress as an executant, the presence of such qualities in his playing as may fairly entitle it to be called beautiful. Judging from my own experience, I suppose that a large, though happily a decreasing, majority of teachers would answer emphatically, "No; we can teach music, meaning thereby the rudiments of notation; we can make our pupils play scales and exercises, and fantasias and sonatas; but a good touch is a gift of nature. We cannot impart taste; we cannot teach expression." This apology is not just; it is not honest; it is not true! Tell me, if you can do so truly, that your pupil is lazy, is preoccupied, is deficient in general intelligence, is nervous, is deaf, has but three fingers on each hand, has a fearfully bad

instrument to practise on; but so long as he is desirous of learning, and troubled with no physical, moral, nor circumstantial disqualification, you must not tell me that you cannot make him play music of moderate difficulty with the sensuous charm appertaining to the correct rhythmisation of the chords and passages of which it is composed, and with the *intrinsic* expression which it demands.

In a leader which appeared in the *Times* towards the end of June, 1879, it was argued that, as a result of Marshall Hall's discovery of the reflex action of the nerves, and of the further discovery of the physiology of memory, we might hope to obtain the same certainty of result in mental training which we now look for from the gymnastic exercise of the muscles. If this be true, as I most fully believe it to be, in purely intellectual pursuits, how much more so must it be in such a thing as piano-playing? We need not, we must not, ignore the undoubted truth that great achievements of any kind demand not only right and sufficient training, but depend far more on natural predisposition. Nor need we, nor must we, admit, spite of the present paucity of result in proportion to the machinery employed, that there is anything to prevent any one of ordinary general abilities from attaining to a very respectable proficiency in this or any other *mechanical art* which he may wish to acquire. The fact is that we musicians are rather apt to take somewhat too high a view of the nature of our calling—are rather too fond of attributing to genius and inspiration things which are, after all, mere matters of natural cause and effect. We run down what we are pleased to call mechanical playing, and, instead of regarding expression as a term indicative of the realisation of the intrinsic meaning and effect of a composition by carrying out the ordinary laws of matter and motion, must needs consider it as non-existent unless it evidently proceeds from an emotional impulse. Expression does not mean the *impression* of one's own individuality upon the work, but the showing forth, the pressing out, of the rhythm inherent in the work.

But if I thus persistently proclaim my conviction of the general attainability of good tone by pupils unendowed with special gifts, I may of course be fairly challenged to show, by something more than vague generalities, by actual and explicit directions, how it is to be done. I reply, we must ourselves realize that it depends entirely upon rhythm—upon rhythm in its totality; that not only must the keys be struck at the right moment, with the right amount of force, but they must be held down during the exact value of the note. We must give up the idea that the organ is an instrument on which the sounds must be sustained for their full length, but that on the piano it is not so important. *The fall of the damper is a more accurate test of true playing than is the blow of the hammer.* We

must at once give up teaching a percussive and disconnected and ungraded style of play—that tip, tip, tapping which frets the nerves of the hand, jars upon the ear, and irritates the whole nature by its irregular discontinuities, and by its helpless want of relativity between the successive sounds. We must cultivate from the very first a pressure-touch, continuity of sound, gradation of tone, and thus enlist both hearing and feeling as our allies. We must become trainers rather than teachers, not only telling and showing our pupils what they ought to do, but *seeing that they do it*. There must be no more trusting to taste or ear. The tasks must be of the simplest; and the brightest, as well as the slowest, pupils must do the same kind of work, although the clever ones may be let off with less of each grade. We must think more of skill and less of knowledge. The ability to play a slow shake perfectly is of infinitely more value to a pianist than even the knowledge of the key in which a piece is written. We must not despise the day of small things, but must look upon the correct performance, by *one hand alone*, of a little tune consisting of long equal notes lying within the compass of a fifth, or even less, as worthy of being commended as a really artistic achievement. The most rigid accuracy both as to duration and tone must be insisted on from the very first. Sight, touch, and hearing must alike co-operate for this end. There must be no prohibition of looking at the fingers, though of course, when that aid can be dispensed with, due praise should be given. The dissonance arising from the percussion of a note while another is still sounding must be imperatively forbidden, nay, the purity of consonant intervals must be equally insisted on. No trouble can be too great to keep the ear sensitive to the disagreeable effect of this most common fault, and the *fingers aware of its perpetration*. The least break between adjoining sounds must be promptly corrected, nor must the slightest inequality in the strength of the sound be permitted, or at any rate passed by unnoticed. The exercises should be confined to such a region of the compass of the instrument that the after-vibration may be sufficiently strong to enable these defects to be readily appreciated.

But, on the other hand, the student's attention must not be diverted by any complication of difficulties. The counting should be done by the teacher, should be rigidly accurate in time, and the accents should be indicated by a proportionate stress of the voice.

The old-fashioned fixed-hand exercise, in which some of the fingers are silently placed on the keys, and held down while one repeats the same sound, should be introduced at the first lesson, but, instead of the usual way of playing them, I would suggest that each note should be held down for a definite period, say four beats, and be separated from its successor by a

clear rest of the same length, to accustom the pupil to a distinction which many an *accomplished* player is unaware of—the difference between sound and silence, between contact and non-contact of the fingers and the key. This is indeed the exercise which I invariably give first of all to those *advanced* performers who, in cant phrase, can play anything you can put before them, and only want a few finishing lessons.

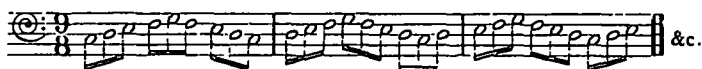


When these fixed-hand exercises are played without definite rests the finger almost invariably remains in the air much longer than it does upon the key. It is most important that it should be raised and lowered with the greatest rapidity, so as to reduce the break between the sounds to the least possible length.

As soon as a fair control is acquired over equality of tone in long sounds—the straight lines of music—the young player should be promoted to the pot-hook and hangers—the lines of beauty and grace—by studying the simplest alternations of accent. In every kind of exercise care should be taken to arrange them in such a form as to prevent the continued recurrence of the accents upon the same finger. Thus, the ordinary five-finger exercise should frequently be played in triplets.



should often give place to—



In like manner the scales and arpeggios should be played with every variety of rhythmical device. For instance, through three or five octaves in groups of four, or in any number of octaves in threes; sometimes even in unequal notes, as alternate crotchets and quavers in nine-eight time. Many excellent directions on this subject are to be found in Franklin Taylor's "Primer"; and, as I had systematically taught in this way for many years before that excellent work appeared, I can speak with confidence as to its utility.

At a very early stage the black notes should be used; when this is done the so-called remote keys lose half their terrors. Never teach two scales having the same fingering one after the other: it only renders the conquest of a dissimilar fingering more difficult.

The combined use of the hands should be deferred until a very fair control over their separate action has been gained; and when their simultaneous use is thus justified we must in every way discourage the formation of any artificial sympathy between them. So important do I feel this rule, that I seldom or never allow the scales to be practised in octaves until they have been learnt in sixths and tenths. Although perfect equality of tone in the two hands must be attained, we must not neglect to vary the pressure, so as to make sometimes the bass, at others the treble, predominant. No matter what the form of the exercise, the spirit of delicate rhythm must pervade it through and through. In short, everything must be done to concentrate the pupil's attention upon his task, and to prevent that "deadly dexterity of hand" which Mr. Ruskin so strongly condemns; in music, as in drawing, "the true performance of *detail* being for evermore impossible to a hand which has contracted a *habit* of execution." But when a fair control over distinctly rhythmical scales and passages is acquired, we may then with little trouble perform them in the traditional and characterless manner, which also has its value: *e.g.*, when they are used as mere embellishments; but when, as in most classical works, they enter into the very substance of the composition, they must participate in its characteristic rhythmisation.

Mr. Ellis has shown us to what a subtle nicety it is possible to educate the ear to the perception of shades of pitch; and the pianoforte teacher must endeavour to awaken in his pupil the same keen appreciation of intensity of tone, pressure of finger, minute differences of duration; in short, he must be absolutely saturated with sense and power of rhythm.

With the use of double notes and chords, and especially when polyphonic music is attempted, redoubled attention will be needed to enforce a perfect accuracy in the length of the sounds. This is *the* test of true craftsmanship. But with very young pupils it only requires patience and determination on the part of the teacher to become a second nature of the player, who soon gets to realise and to dislike the loss of sonority in such passages as these, when the sustained sounds are robbed of the slightest fraction of their true value, and equally to detest the ill effect of the overlapping of the moving notes when one is sustained beyond its proper time:—



Both Czerny and Lebert and Stark say, in regard to connected thirds: "In passing the fingers over and under each other perfect connection is impossible, but it suffices, if in the ascending scale the upper note be connected, in the descending scale the lower one." With all due deference to such distinguished teachers, I must submit that to an acute ear this method is horrible, and that a slight break in both parts, which, if adroitly made, will be hardly perceptible, is infinitely preferable to their plan.

I must apologise for lingering so long over this division of my subject, but having, during five-and-twenty years' experience as a teacher, met with not more than five pupils if indeed so many, who had ever been told the importance of perfect accuracy in regard to duration, and of delicacy of gradation in respect to accent, I feel that too much insistence can scarcely be bestowed on a matter which lies at the very root of beautiful effect in music.

If it be conceded that tone in pianism is really nothing more than justly-varied rhythm, the question very naturally arises as to the reason for the great changes of angle, and of elevation in arm, and hand, and fingers, which are witnessed in the performances of so many of the greatest players. Are they merely assumed to bewilder and astonish the eyes of the spectator, or are they *bonâ fide* means whereby their enormous volume of sound, their delicate *pianissimo*, their subtle gradation of tone, their refined phrasing, are produced? The almost universal concurrence among authors in enforcing some one or other position of the hands, as being the one thing needful for the formation of a good touch, certainly points to the former proposition as at least probable; but this probability is somewhat shaken when *their* very various notions as to what constitutes the right position are compared. A most instructive and amusing instance of "doctors differing" would be afforded if time would permit me to lay before you only a tithe of their conflicting views. A consideration of certain points in regard to the construction and functions of the hand will be a more direct method of solving the question than any comparison of the conflicting dogmas of equally eminent authorities.

The first point is, that the hand is not only a mechanical agent consisting of levers and pulleys—in other words, of bones and muscles—through which we are enabled to exercise our will upon things without us, but that it is the chief seat of the sense of touch, which, so far as our inquiry is concerned, consists of two functions, viz., simple sense of contact and what is commonly called the muscular consciousness, by which we judge of the amount and direction of forces exercised by ourselves independently of actual touch of any external substance; and, in connection with the former, to estimate the resistance which the thing acted upon offers.

I am strongly inclined to believe that it is to the neglect of the cultivation of these sensibilities in the hand, consequent upon the excessive desire for strength and velocity, that the lack of really charming players is chiefly due. *We think too much about what we do to the keys, and too little about what they do to us*, not reflecting that the performance of the second or any subsequent motion must be largely influenced by the amount of resistance which has been overcome in the former; and thus we sacrifice a most potent means for securing the very central feature of beauty of touch and tone, *subtlety of gradation*.

It is evident, therefore, that no directions for attaining the best or any right position of the hand in playing can be regarded as authoritative in which no account is taken of the superior sensitiveness of some parts of the hand. And yet, although our books of instruction teem with directions as to the position and action of the hand and fingers, I cannot at the present moment remember one in which a single hint is given that touch on the piano is even remotely connected with *feeling*. Of course I now use the word feeling as meaning *sensation in the fingers*, and not as a synonym for emotion or expression.

Nor must consideration of leverage be ignored; for even if the brute force of a fairly developed hand be ordinarily in excess of any demand which may be made upon it for obtaining mere loudness, whatever the position in which we may elect to hold it, the exertion of that force will require a greater exercise of the will—in other words, of nerve-power—in some positions than in others; and thus, by varying the position, we gain a most subtle gauge by which to regulate the strength of the stroke.

Then again, the rapidity with which a finger can be withdrawn from a key—a matter of great importance, since upon it depends the degree of cohesion, or of separation between successive sounds—is also a matter of leverage. The fleshy covering of the bones, too, although nowhere so rigid as either “a bar of iron or a broomstick,” varies greatly both in thickness and elasticity, and thus becomes a factor in regard to promptitude both of attack and cessation.

Remembering that it is just where the flesh is thickest and most elastic on the top joint of the fingers: viz., at those circle-like places somewhere about the middle of the lower surface, that the power of sensation is greatest, let us examine somewhat in detail the different degrees of pressure which we are able to exert in a downward direction by varying the disposition of the leverage of the fingers.

A very simple experiment with an ordinary balance will enable any one to judge of the extent of this variation. In my own case, I find that with a really flat position of the middle

finger I can obtain a pressure of between six and seven pounds; with the first joint kept perfectly horizontal, in a straight line with the back of the hand, and with the two upper joints at right angles with it, between nine and ten pounds; with the three joints about equally curved, and the tip resting on the lever, about thirteen pounds; and with the back of the hand raised, the first joint slightly slanting downwards, the second joint nearly perpendicular, and the third joint somewhat thrown back, so as to bring the centre nearly upon the lever, the weight lifted was more than sixteen pounds. Both the lightest and the heaviest being thus actuated at a point either upon or very close to the centre of sensation, and proving that the greatest range of varying pressures can be obtained without resorting to the tip-touch, as is commonly thought necessary when great strength is required. Nor was the stiffening of the arm and wrist so much needed to reinforce the intrinsic strength of the fingers in the first and last cases as in the second and third; or, at any rate, I was not so conscious of it. Of course in each case there was considerable co-operation of the arm with the finger, or these great weights could not have been overcome.

The height from which a finger falls is commonly supposed to add greatly to the amount of sound; but if the hand itself be kept at exactly the same level and quite still, and the most forcible, *i.e.*, the most rapid blow be given—first, with the finger resting upon the surface of the key, and then from the highest position to which it can under the circumstances be brought—it will be found that the augmentation of tone is not nearly so great as might be imagined, but that, in order to obtain any manifest increase of tone from the higher blow, the weight of the hand must in some degree be added to that of the finger. This, while it explains the uniform practice of the older players of keeping the hand as still as possible, and scarcely raising the fingers above the keys, does not exclude the height to which they are raised, even while the hand remains perfectly still, from exercising a very marked influence on the effect of a passage, since the effort to withdraw them to a greater distance will involve an appreciable, although an immeasurable, shortening of the sound, and thus impart a greater distinctness of tone, *i.e.*, a greater brilliancy to the passage.

Such considerations as these, which might be multiplied indefinitely, all point to the immense changes in the rhythmical texture of the performances by such alterations in the way of striking the keys as continually occur in the play of the best artists, and should make us chary of prescribing any one position or any one kind of touch as the best. They are all best when rightly applied.

The order in which the master will direct them to be

cultivated by the student will doubtless depend more or less upon the view which he takes of the piano as an instrument, and upon his predilections in the matter of music.

The admirer of light and sparkling pieces will make him begin with something like Frost's Thalbergian Exercises, which require a loose *staccato* touch; an expert executant will inculcate a firm blow with the hard tip of the finger as the foundation for a brilliant style, since the hammer will act with greater promptitude, and the damper fall more rapidly, when the key is so struck than when it is pressed by the soft lower surface; while the lover of a pure singing tone, preferring volume to intensity, and delicate gradation to noise, will agree with Mr. Charles Lunn, that it is through the velvety cushions of the top joint of the finger that he "can best display his feeling, and show that he knows to the full the cunning of a man's right hand." He will therefore recommend a somewhat more flattened position than that usually taught as being the best for a beginner; for the more highly sensitive the part of the finger applied to the key, the more minutely will the player be able to regulate its momentum. And if he be wrong, he will certainly err in good company. We are told in Grove's Dictionary that "Beethoven's fingers were short and strong, and the tips broad, as if *pressed out* with long practising in early youth," and he is reported to have said that in playing an *adagio* the fingers should feel as if glued to the keys. Has not Mr. Ruskin also said, "The only rule which I have as yet found to be without exception respecting art is, that all great art is delicate"?

The teacher, however, whose first desire is not for the gratification of his personal likings, will not neglect to study the idiosyncrasy of his pupil and the natural conformation of his hand before insisting too strongly on this or that position as the one to train for; and towards young children especially he will observe the greatest tenderness in his requirements, so that their delicate and loosely-strung fingers may not be injured, nor any false position induced, by making them strike too hard, press too heavily, or stretch too far.

Mr. Charles Hallé's directions are very simple, but I question if they are not ample for a beginner: "The hand must be kept in an easy and natural position, the thumb as well as the fingers over the keyboard, and the elbows near, but not touching, the sides. The key must be struck with the *fleshy* part of the finger, the motion of the hand from the wrist, and each finger must be raised exactly at the moment when the next one touches the key, and not before, except in *staccato* playing." The *easy and natural position* I take to be that gracefully rounded form which the tonicity of the muscles causes the hand to assume when quietly hanging at the side,

which only requires a slight separation of the fingers to adapt it to every requirement of the five-finger position.

The indissoluble concomitance of *timbre* with intensity, and its natural variation throughout the compass of the piano, are a continual source of danger to the unpractised performer, since they add to the obtrusiveness of a sound when it is inadvertently played too loud ; but they are the means by which we can obtain, more fully than would be possible if the piano were really "monochrome," the well-known charming effect so happily designated by Thalberg as "The Art of Singing applied to the Piano"; and they also conduce to what is called orchestral colouring. This latter is, however, very greatly caused by the configuration of the passages themselves, aided, in the hearer's imagination, by their association with the instrument for which they were written. But beyond this, each orchestral instrument has its own peculiar attack, and its own possibilities of phrasing ; and it is upon catching these features, and not upon any near simulation of their *timbre*, that the pianist depends when attempting to suggest them. Then, again, the compass of each is limited to but a small extent of the keyboard, and their most characteristic notes are still further restricted to a portion only of their own compass. So that, by combining the pitch, the attack, the phrasing, and the configuration of the passage, a fair indication of the instrument intended may indeed be afforded by a skilful player. But here again everything depending upon the player is evidently and entirely a matter of rhythm.

The use of mechanical aids by the student has been often enough discussed from the point of view of increasing the strength and suppleness of the fingers and securing the right position of the hand and arm ; but, so far as I am aware, they have never been regarded as directly bearing upon the production of a beautiful tone. Many very eminent authorities are strongly opposed to them altogether, but I think their objections are based on the abuses incident to them as to every other useful thing.

Having regard to the rhythmical origin of beauty in touch and tone, I am inclined to place the metronome first in the order of utility. Its employment during the practice of technical exercises and troublesome passages is invaluable, to prevent that hurrying to which ardent and nervous pupils are addicted. I do not believe that it conduces to a square and uninteresting style of playing when used under the direction of a teacher whose own rhythmical feeling is refined and pure ; and old Dr. Crotch's dictum, that "our first duty is to learn how to play in time, our second how to play out of time," is worth remembering.

Next to the metronome comes the organ, or, when that is not accessible, the harmonium, which is especially valuable

for those pupils who, having made a certain progress in music, fail in the true *legato* touch. The unreasoning prejudice, not yet wholly extinct, that its practice prevents anyone from acquiring a good touch on the piano, is simply absurd. That many organists of the old school had a most detestable touch when they attempted to play the piano is undeniable, but that naturally resulted from their want of practice on the latter, and from their monotonous and unrhythmical style upon the former. The advice of Schumann to young musicians on this subject will probably occur to many of my hearers, who will doubtless also call to mind the names of many eminent performers who were or are equally excellent on both instruments.

The perfect *sostenuto* of which the organ is capable renders it simply invaluable to the piano teacher, the more so since, while the insisting upon rigorous accuracy of touch may, in consequence of the evanescent sound of the piano, seem to the unreflecting pupil as savouring of pedantic tyranny, its necessity on the organ is self-evident to the least sensitive of ears.

The notion that it is not amenable to variety of touch, that phrasing is impracticable upon it, unfortunately lingers still in some *not* out-of-the-way places, though its erroneousness would, one might suppose, reveal itself at the first thought, on comparing the difference of style observable between two players—a difference wholly independent of speed and of registering. This will be found to depend mainly upon the distinctness with which repeated notes and chords are articulated, upon the slight variation in the length of silence by which succeeding phrases are separated, and also upon a minute lengthening of the accented parts of the bar, occasioned partly by a greater promptitude in the attack, and partly by an infinitesimal lingering of the finger upon the key. The interchange in the effects of duration and loudness may be easily shown by playing a scale slightly out of time, when, if the unaccented notes are made the tiniest shade too long, they will, except to a very observant ear, appear as if they were really a little louder than the others.

The performance of mechanical exercises upon the table, or upon a heavily weighted dumb keyboard, so strongly advocated by some professors, and so strongly condemned by others, while it undoubtedly tends to strengthen the muscles, may also be made to increase the sense of contact and the muscular sense of the hand; but, as it is only by concentrated attention that any good can be effected in this way, it should not be attempted, except under the direct supervision of the master, by any but the most conscientious of pupils.

I should be glad if any of my hearers can inform me certainly if there is any truth in a statement I once read, that Thalberg used when travelling to practise upon a dumb piano.

The system of finger-gymnastics invented by Mr. Jackson has already formed the subject of an admirable paper by Mr. Stratton, but I should like to recommend a new work, entitled "*A Complete Course of Wrist and Finger Gymnastics*," by A. Leffler Arnim. The exercises therein are divided into three classes—active, duplicate, and passive. "The active are those which are carried out without the intervention of an opposite will or force," and correspond in some degree with the "free exercises" of Mr. Jackson. "The passive manipulations are those which are applied by one hand to the other, the latter being in a state of entire passivity. They are mainly useful in rendering the fingers lithesome, and the joints mobile." The duplicate exercises are so called "because they can only be effected by the working of two opposing wills—the one acting, the other resisting." These are very valuable as means for improving the action of any particular muscle, and because they cannot but tend to the development of the muscular consciousness when attentively practised.

In conclusion, I must say how utterly inadequate I feel my treatment of this subject to have been. A volume would scarcely suffice for its due consideration; and, in preparing this paper, my chief difficulty has been what to select and what to reject from the great amount of material I had accumulated, so as to bring it within reasonable limits. I thank you most heartily for your kind attention to my crotchets, and trust that their monotonous rhythm will now be agreeably varied by some notes of greater value from other speakers. If I may add one word more, I would say to young musicians and young teachers, "Take care of the time and the touch, and the tone will take care of itself."

DISCUSSION.

The CHAIRMAN.—Ladies and gentlemen, if you will allow me, I will in your behalf present Mr. Steed with our thanks for his excellent paper. In the next place, it is my duty as Chairman to promote discussion on it—often quite as valuable as the paper itself, and which, I think, it is most important that our little Society should keep in mind. It is sometimes a little difficult to raise. In the first place, the reader of the paper has the advantage of preparation, which the speaker in discussion has not; but I hope there may still be some amongst us who, from technical knowledge of this particular subject, may be willing to make an observation or two of value. One of our friends, Mr. Ellis, has been mentioned more than once; then, I think, we should have some observa-

tions from those amongst us who are more particularly accustomed to the pleasant task of pianoforte-teaching; and I am very sorry Mr. Osborne is not here, as he might have something to say. It is a matter extremely interesting to many, and the observations made as to the difference of touch between the pianoforte and organ are at the present time specially so. Twenty-five years ago, notably before the time of the Great Exhibition in London, the touch of the organ was a most inconvenient and heavy matter, but we have had many improvements in its manipulation, consequent on the improvements of manufacturers, and I do not think these exhausted, or likely to be. I now cordially invite you to the discussion, and I hope we shall profit by it.

Mr. W. H. CUMMINGS.—It seems a great pity we should not have something said on this occasion; and I think it only wants a few words to start those who know something about playing the pianoforte. One thing struck me as very important, namely, the question whether it is advisable for pianists to practise the organ. I know there is still a theory, which is very much in vogue, that it is a very bad thing for pianists to do so, but I think that arises possibly, and has some true cause in the fact, that organs, even with all the improvements spoken of—all the improved manipulations spoken of: the pneumatic action, and so on—are terribly unequal in the touch. You cannot go into a single church in London, or very few, at any rate—perhaps St. Paul's or the Temple Church, and it may be one more—where you will find a touch which is equal. I find the bass generally heavier than the middle of the instrument, and considerably heavier than the top, and consequently that must be a disadvantage in practising the organ. It is quite clear that cannot be a good thing for the fingers of an organist or pianist, particularly those who play the rapid music in vogue at the present day. Mr. Steed asked just now if anyone could speak as to the alleged fact of Thalberg having practised on a dumb pianoforte. I cannot speak from direct knowledge, but I have travelled with Arabella Goddard, and found her using a dumb pianoforte, or a key-board; and on talking with her about the advantage of using it, she told me that Thalberg used the same thing—so that that is a sort of second-hand evidence, at any rate. I think some of the lady members might speak on this matter. There are some admirable pianists here, and we might have some good criticism from them. We are much obliged to Mr. Steed for his paper, and I only wish that, as it is not very long, he had given it to us a little slower.

The CHAIRMAN.—It would indeed be a bright day for this Association if some of our lady friends would set the example of speaking. I have lately had the pleasure myself in another place of hearing some uncommonly good speaking on the

part of ladies, and I think it would be most refreshing to us here.

Mr. CHARLES GARDINER.—I must say that I feel that the personal feelings of the performer affect the tone very much. I should go rather beyond our lecturer this evening. I have been delighted with a great many things he has said, but I believe that the feeling of the performer does influence the tone.

The CHAIRMAN.—You mean not the mechanical feeling, but the emotional feeling.

Mr. GARDINER.—The emotional feeling. I may mention an instance which just occurs to my mind. I have been giving a lesson to a pupil on a piece which I have not heard her play for a long time—the “Arabesque” of Schumann. She did not seem to play it as well as before, and I said, “It seems a curious term to use, but you appear to play this afternoon in a flippant style.” She looked up with great surprise, and said, “Well, it is very strange, but I was playing to some one last night, and he used that same expression; he said there was a flippancy about it.” I thought there must have been something about the character of the touch that produced on two listeners the effect of flippancy. Comparisons have been drawn between pianoforte playing and organ playing, and the question has been propounded whether organ playing is good for pianists. The lecturer seemed to consider that it ought to lead to a very *legato* touch; but I think the experience of many rather proves the contrary, because if a pupil practised the organ a great deal, there is a great necessity for holding the notes down, but, when they come to the pianoforte, many feel that is not carried out; that is, those who practise the organ do not pay that attention you expect on returning to the pianoforte.

Dr. F. E. GLADSTONE.—I did not intend to say anything this evening, and I have really very little to say, because it has been already suggested that the reader of the paper knows so much more about the subject than anyone else, having studied it so recently. But there is one point, I think, on which a little evidence may be forthcoming, that is, with regard to the advantage or disadvantage of practising the organ in connection with the pianoforte. I was, as some of you may be aware, pupil of the late Dr. Wesley, and for five years he was the pupil of the late John Cramer. Dr. Wesley was brought up, in his early days, at a time when the organ touch was very heavy indeed, long before pneumatics were invented, and yet he had one of the most lovely touches on the pianoforte I ever heard. I believe he had imbibed that from his instructor, John Cramer, but I must say I think it had undoubtedly much to do with the advantage of practising the organ, which he had enjoyed from his boyhood. I must say

myself, as far as my experience goes, that steady practice with the organ in connection with the pianoforte tends to give a better *legato* touch than can be obtained in any other way. That is the result with regard to my own experience.

Mr. SOUTHGATE.—There is one remark which I might offer with regard to the practice of the organ. It must be remarked that, unlike the pianoforte, the organ is an instrument on which you cannot get accent, and I need hardly point out how necessary it is on the pianoforte to get good accent. I think if people practise too much on the organ, there is a little danger of losing one of the greatest charms of the pianoforte—the accent. On the harmonium, accent may be obtained by the expression stop, but that is, as you know, obtained in a totally different way, namely, by means of the foot. It is an important thing, which should not be lost sight of, that accent is the life and soul of good pianoforte playing; and the continued practice on the organ is hardly calculated, I think, to improve that.

Mr. STEED.—I am much obliged to my friend, Mr. Cummings, for giving me the information, which he calls second-hand, but it was quite as good as first-hand in his case, with regard to Thalberg practising on the dumb piano. I believe it is sometimes of immense importance if, as I said, you can only secure that the pupil is conscientious in the use of it. As to my speaking too fast, I am certainly conscious of it; but my friend, Mr. Higgs, suggested that the paper should not be too long, in order that we might have a good discussion after it, and therefore I was anxious to get through it in order that we might have a little chat on the subject we are all interested in. I most distinctly assert still that in a single, an isolated note, no possible difference of *timbre* can be produced by the way in which the finger touches the key. I am perfectly certain that had my assertion on that point not been true Mr. Ellis would have contradicted me. I was very glad to find that he was here, and did not contradict me. I only wish I could believe that the touch of the finger could directly influence the tone, for it would greatly strengthen my argument for the necessity of cultivating the consciousness and sensibility of the finger-tips; but, as I laid down in the paper, the touch has an enormous influence on the collective tone of the passage, and it is that which, I think, well explains the expression with regard to the flippancy of a certain lady's playing. It is a remark I have frequently made, "You play that in a flippant manner." The effect would be shown in a passage, but it would not be shown in an individual note. What I contend for is this—that in teaching touch we simply teach rhythm, and nothing more. I have had very favourable experience with regard to the harmonium and organ in order to supplement my pianoforte

teaching; and if you will bear with me a moment I will relate a little anecdote with regard to one of my pupils. She was certainly very clever, but had been wretchedly taught, and had not the slightest idea of *legato* in her playing. She was about fourteen or fifteen. I tried everything I knew in order to interest her in tone on the piano, and at last I told her father that unless he got a harmonium for her to practise upon I did not know what in the world to do with her, and I should be obliged to give her up. I felt that she was doing me discredit, and that I was robbing him of his money. He consulted a musical friend of his, a gentleman who had previously been a solo violinist, and who was connected with a well-known professional musical family in London. He said, "It is simply absurd, the idea of any good coming out of practising the harmonium. I then told her father, "The fact is, I shall have to give up teaching your daughter." He said, "If it comes to that, it looks honest; and I will get a harmonium, for a time, at any rate." About three months after the harmonium was obtained this gentleman visited them again, and he asked her to play to him. She went to the piano and played, and he said, "How much you have improved!" adding, "I knew it was all nonsense about your learning the harmonium"; but she replied, "I have not touched the piano for the last three months." The names, eminent in art, of professors who have been equally celebrated both as pianists and organists, point, I think, to the fact that what I have contended for, a judicious practice of the organ, does not tend to spoil the pianoforte touch. With regard to the organ being stiffer in the bass than the treble, that is always true, I believe, in the case of grand pianofortes also. I do not say that long continued practice on the organ is advisable; I think, myself, if you give all your attention, or a greater part of it, to one thing, it will necessarily lessen, to a certain extent, your power on the other. I may mention that some years ago Dr. Steggall said to me, "Come to church with me on Christmas morning, Bennett and I are going to play 'For unto us' as a duet." I went and heard it, and afterwards I said to Dr. Steggall, "I did not know that Bennett was an organist"; and he said, "No, neither was he, as a pedalist, but his perfection of pianoforte-playing enabled him to overcome the manual difficulties of the organ." I very much regret that further discussion has not taken place on other points, for I feel certain that many gentlemen present, and ladies too, would be able to throw some light on the angles at which it is advisable to play certain passages. I have rather heterodox notions on the subject myself—at least, different from those laid down in instruction books; and, had I not been afraid of trespassing too long on the patience of my hearers, I should have introduced more of them. I think, if I may be allowed to say so,

we ought not to separate without proposing a vote of thanks to Professor Monk for the kind way in which he has presided at this meeting.

The CHAIRMAN.—I am much obliged to you, ladies and gentlemen. It seems to me there is a tolerable consensus of opinion on the part of the best pianoforte professors as to the desirability of some knowledge and practice of organ touch as a means for obtaining *legato* playing. I might mention, as the gentleman is not here, nor, I believe, is he a member of our Association, that one of my daughters was for some years a pupil of Mr. Aguilar, one of our best pianoforte teachers; and, much to my astonishment (he happened to know that I had an organ in my house), he strongly advised his pupil to practise the organ. Simply conceding the point in the way in which Mr. Gardiner, and Dr. Gladstone also, conceded it, with regard to inequality of touch on the different parts of the keyboard in organs, of course in some organs this inequality is very great. Taking an average organ, I rather question if the inequality itself might not be called valuable in the education of the hand. Again, it is a most interesting question, Is there such a thing, or is there not, as accent on the organ manual? I am inclined to answer that question in the affirmative, especially taking our modern organs. We may certainly congratulate ourselves that the mere mechanical improvement of the organ within our time has rendered phrasing possible of which our forefathers could not have dreamt, and for this we are very much indebted to the organ builder. Then, again, with regard to the curious question as to touch. Mr. Steed has laid down that nothing can be done with the hand itself as regards the production of tone on the pianoforte—I think that is what you said.

Mr. STEED.—With regard to an individual note, the *timbre* varies only as the *intensity* varies. The point I wish particularly to emphasise is that the whole thing is matter of rhythm—appreciation of rhythm, and power of rhythm—and especially also I drew attention to the raising of the finger—that is, the fall of the damper, as being the criterion of a good touch—as a measurement of the silences which intervene between successive notes; that is probably the most important feature in what I should call the collective tone of a passage, and will most certainly be influenced by the elevation of the finger. I hope the discussion will be continued if there is anything more to be said against my views.

Major MCCREAGH.—Once or twice in St. James's Hall I have heard players of great reputation; and when hearing one man I have thought, What a wretched piano that is! and I have condemned the piano; but shortly afterwards I have heard somebody else, and one found that the fault could not be in the

piano, for it sounded like a totally different instrument; yet both pianists were of high reputation.

Mr. STEED.—I have noticed the same thing. Not long ago I heard a concert at a certain Hall not far from this place, and during the whole of one afternoon my ears were positively raked by the horribly dissonant way in which the piano sounded. Yet what was the cause? There was no *sostenuto*, there was no gradation, the whole thing resolved itself into a matter of thump, thump, bang, bang, from beginning to end. There was not a touch of music or rhythm in the whole thing. It was not the fault of the piano, but the player.

The CHAIRMAN.—I suppose you would send him to the organ.

Mr. STEED.—No, I do not think I should; I should send *him* to a very light pianoforte, and make him play softly, and with minute attention to rhythmical gradation.