

Six Foremost Types of Touch

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[EDITOR'S NOTE. The following article has been extracted from a short work by the above named writers and especially translated for THE ETUDE by Oscar Schlieff with the permission of the publishers, Breitkopf und Härtel. The work is entitled, *Das Problem der Modernen Klaviertechnik* and is copyrighted in America.]

The Free Fall

A "FREE FALL" of any part of the body is practically impossible. Friction and tension of the muscles interfere. In piano technique even a "relatively free fall," with the muscles relaxed, is useless, since it will not permit hitting the right key with the proper finger and the requisite force. To do this it is necessary that the fingers "feel" their intention and fall into the correct position, while the joints, especially of the wrist, stiffen enough to transmit the needed arm pressure.

Coming from slack shoulders, we call this a "modified free fall" of the arm. Even from a very moderate height it carries considerable pressure. The ensuing strength of tone depends in addition, however, upon how many fingers carry the weight, and whether it is evenly distributed between them. For soft tones the full-arm drop is too severe. For even moderately strong tones the drop of the forearm will suffice. The hand-drop would, it is true, produce a weak tone, but one so slow in action that it can be better achieved by other means. A free fall of the fingers alone, is too powerless to be effective. Even though a heavy finger falling upon an exceptionally light mechanism, might produce action, a quickly repeated alternation between tension and passivity would be unthinkable.

The Throw

When, in addition to gravity, a mass is acted upon by some live force in overcoming resistance, we call it a "throw." Since the fall of the whole arm was already too ponderous for fine tone effects, the addition of muscle-power still further restricts its use. Such a combination would be serviceable only for considerable breadth of tone. Even the throw of the forearm alone would be powerful, and therefore limited in use. The throw of the hand, however, being lighter, has a wider field of application as regards tone-strength. The fingers, which by themselves were ineffective in the drop, become independently tone-producing when we apply the throw, though generally needing still other aid to render the result effective. For a stronger tone, arm pressure must be added. In the German magazine *The Woman*, Tony Bandmann claims that the throw can achieve an evenly timed tone-sequence of from two to five, and even six, notes.

The Blow

The "fall" is an action uninfluenced by the will. The "throw" adds an active muscular impulse. The "blow," further, adds pressure. The full-arm blow is suitable in the strongest fortissimo only, the blow of the forearm only in fortissimo. Forte could be produced by a blow of the hand alone, in which action, however, the rebound of the fingers would prove disturbing. Because of this, the principle action must still be in the arm, the fingertips remaining close to the keys and the hand executing only the lesser movements. In legato playing a blow of the fingers, conjoined with arm pressure, is capable of producing any and all gradations of tone.

Discrimination between various functions of play going on at one and the same time, must remain theoretical. We do not perform even ordinary move-

ments in the manner of a mechanism run by clock-work. Certainly we do not perform piano movements in this way, these being of a highly involved nature. To give better expression to this intricacy is the underlying thought of modern piano theories. It is a welcome tendency.

The Swing

The word "swing" signifies to us an alternating action induced by the elasticity of a tensed body. The latter is called elastic when it "gives" to a force acting upon it, but shows a tendency to return to its former shape. If the arm-muscles, especially those of the wrist, are tensed to an extent which induces such a condition, we may call the arm "elastic." The wrist in this case acts

the whole upper body inclines forward and throws its power into the instrument. The mechanism, by giving way gently, allows the superimposed weight to shape the tone in full breadth and softness as well as with accentuation and speed."—BREITHAUP.

This semi-relaxed condition of the arm may also originate in a throw-like impulse. It is therefore best called a "swing." However, here as elsewhere, a name does not always suffice to interpret an idea. Analysis may help us to comprehend the intricacies of touch, but its true value lies in our ability to apply it to practical playing:—throw, swing, and blow attain their end in the pressure of the finger upon the key.

Pressure

Neither of the three aforesaid attacks are applicable to the most prominent style of touch, the legato; hence our chief asset in piano playing is pressure. It is true that for strength of tone we need quick key action. With equal speed of touch, a hydraulic press could produce no greater tone than a little girl's finger. The quicker the action, however, the greater the expenditure of power in both cases.

Speed of touch should not be confused with speed of playing. To attain the latter with a relatively slow touch would be impossible were it not for the resistance of the mechanism, which breaks the throw of the fingers. This presupposes that the entire weight of the arm is carried by the shoulder muscles, so that the throw is the sole active force. The weight of the arm transmitted through the fingers, easily overcomes the resistance of the keyboard, consequently we have a quick sinking of the key, quick hammer action, and a strong tone.

Though perhaps unknown to theory, these results were really never obtained in any manner other than the above. The only possible blunders were a setting of the muscles and greater stiffness of wrist than was necessary for transmission of power. Some tension must be retained,—unfortunately so, since it hinders flexibility and control of the fingers. Excessive tension needlessly tires and stiffens the fingers, making a fine tone-shading impossible. It should be a first principle to allow the joints to remain as limber, and the muscles as relaxed, as possible. The best means to accomplish this seems to be the modified fall, and perhaps also the throw. These, however, as we have said, necessitate some tension if they are to result in a satisfactory tone. Tension, thus, is the unavoidable conditioning factor of power.

Theoretical analysis helps us only in so far as by means of it we avoid an impracticable or mischievous use of the human play-mechanism. It cannot, through an explanation of the working parts, materially lighten the labor of practical achievement. Steinhausen voices this belief in saying: "Our body is constructed most practically in so far as fixation takes place automatically just when and where necessary to realize the object of any special motion." He desires, however, "to replace finger technique, insufficient and health-destroying as it is, with a form of motion both more forceful and better adapted to the human mechanism."

Pressure in legato playing may vary considerably, though the hand remain in touch with the keys. The fall, throw, blow, and swing, though not applicable to legato play, must also necessarily have pressure as a final result. Which of the named varieties of touch is to be recommended will depend upon the nature of



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like a wagon-spring, which transmits the sudden jars of the wheel without entirely eliminating them. The elastic wrist prohibits a too strong attack, yet transmits a sufficiency of force from the falling, thrown, or striking arm. From this arise, round, wavelike motions. The double effort of avoiding every coarseness of attack and still retaining sufficient power, has led to an entire revision of our theories of technique. We approach the keyboard with a swinging motion of the tensed arm, powerful yet controlled, and at the point of contact give way just as much as the individual case requires. "Only deep pressure joined with the greatest possible relaxation, can give a pure singing tone."

"This deep pressure originates in tension of not only the back, but the whole upper body. Even the muscles of the abdomen and of the thighs take part in it. The torso becomes erect, the thorax enlarges,

the technical problem involved. Pressure may also be used by itself, without any introductory motion. This presupposes that the fingers seek their position some time before the attack, with their tips touching the keyboard. Such proceeding has three advantages: First, greater certainty of striking the correct keys; second, avoidance of any noise through concussion; third, ability to judge the resistance of the key, with a possible choice of influencing pressure at the last moment.

There are good reasons for endorsing Tobias Matthay's advocacy of pressure playing. Unfortunately Matthay has lost himself in a perfect labyrinth of speculation. He classifies no less than 42 varieties of touch: 8 finger-staccatos, 10 finger-legatos, 6 wrist-staccatos, 8 wrist-tenutos, 4 arm-staccatos, and 6 arm-tenutos.

Another of Matthay's fundamental mistakes is the belief that touch influences tone-color. The quicker the sum total of speed in key action, the greater the quantity of tone; the slower the key action, the richer, more sympathetic, more singing the tone, and the better its carrying power. The quicker the touch, the sharper the tone, possibly the more brilliant, but with less carrying power and continuity.

Finger Technique

It is considered good form nowadays either to decri finger action altogether, or at least to deny positive activity to the fingers. Dr. Steinhausen says "The roll is the only transmitting motion which can free us from our miserable finger technique. In the roll Nature gives us sufficient speed without reliance on single finger action," and he recommends "the swinging roll of the forearm for obviating all finger motion."

Miss Bandmann in her German work *The Technique of Speed in Piano Playing*, says: "Under the greatest possible passivity of the fingers we are not to understand inflexible fingers; they only become inflexible through fixation. In weight-play we need their flexibility to the uttermost, but not their individual activity." This view is endorsed by Steinhausen.

In an article *The Question of Weight Technique*, W. P. E. de Hart of Amsterdam, says: "The influence of the swing upon the rolling arm mass gives us the free use of the arm, which is not the case in active finger movement, and it finally gives us the feeling as though the fingers were acting automatically. This is explained by the fact that the swing gives a motion to the fingers which is not obtainable in active finger play."

Oscar Reif, we know, has thoroughly explained that the difficulty of finger dexterity does not generally lie in the individual activity of the fingers. When it does, it is usually in the trill. For the rest, finger technic consists in intellectual-physical control of the required sequences of keys, while the physical activity of the single fingers is very small.

Yet it is necessary to emphasize that the activity of the single fingers, in connection with arm motion, is the very foundation of play, and though at bottom of mental origin, can be learned only through actual practice, that is, by repetition, at first of the single function, and then of its combinations. This function we shall not call "independent," because this might be misunderstood to mean "isolated" or "without assistant arm pressure." It is true that in fast pianissimo passages is not only possible, but even necessary.

Another stone of trouble encountered by the moderns is the passing over and under of fingers and thumb. We mention only Tony Bandmann: "The hand pushes ahead and the finger passes over—two blunders that are constantly being made, because the passing over or thrusting over is less the troublesome and sometimes appears even the more natural way, and throwing the hand at this point appears superfluous. An additional difficulty is that the throws vary, are of different time-length, first three and then four successive keys. I overcome this difficulty by letting the four keys be played quicker than the three."

The Roll

Active finger motion must frequently be assisted and partly replaced by other modes of touch. This help can be given either by a vertical action of hand and arm, or by a turning of the forearm along its horizontal axis, with a participating movement of the upper arm. This is the "roll."

Vertical arm activity during play in which arm pressure is not continuous has always been a subject of attention in piano technic. This arm shake or twist, however, can be used also in legato, and in speed-play it becomes a necessity. Facilitating, as it does, both motion and relaxation, there are certain other technical problems in which the roll is entirely permissible.

The constantly recurring difficulties of our piano literature have always and imperatively demanded a use of the roll as a condition of technical mastery. In many instances the roll takes place automatically, and in these places its suppression would render successful achievement impossible. It is therefore a subject more for practical than for theoretical study.

Despite the practicality of the roll, restfulness of the hand remains of first importance, since by it we understand the avoidance of unnecessary and disturbing motions. Herein, also, lies in part the hand's "independence." We cannot be blamed for the fact that pedants have transformed this restfulness into rigid immobility. It is true that in initial exercises all efforts which try artificially to restrain the arm from helping the fingers, are to be condemned, since they do other harm. Thus we condemn the "hand-guide" less for its hindrance to hand action than for the fact that it stops all weight-action and weight-control. Yet Hans von Bülow recommended the hand-guide, showing that he believed in quietness of hand.

Granting initiative of motion to the single fingers, we must acknowledge the need of their early and careful schooling. Whatever would be omitted in practice, the exigencies of play would nevertheless later on demand from the performer, though perhaps without his being aware of it. Since the roll, at least in part, replaces finger action, its early cultivation would be in opposition to the principle of fingers first. However, no sensible teacher will try to prevent its manifestation in so far as it is automatic.

Let us examine in how far the roll is indispensable, when it is facilitating, in what instances it takes place automatically (and should not be suppressed), and on what occasions it is only an accompanying phenomenon.

Where two tones requiring the greatest possible stretch between thumb and little finger are to be played in rapid alternation the necessary position and stiffening prohibit all individual finger action. But even if the tension, in slow alternation, would just permit of this, still the forearm, because of its very easy roll in the elbow-joint, is far better suited for the work, even in lesser stretches of the thumb and fifth finger, also in wide arpeggios; in the latter case this method is used to advantage, as the hand rolls as on the hub of a wheel. The less, however, the distance between the two fingers the sooner does individual action in the customary curved position of the fingers become possible.

The "Roll" in the Five-Finger Position

In a close five-finger position, especially the narrow chromatic one, a smooth roll would, first of all, require a fixed and carefully tried out finger position; secondly, it would result in a musically impossible legatissimo; and finally, an even roll could be accomplished only up or down, but not up and down.*

It is easy to perceive that the turn must cause a delay in movement. If we take into consideration that besides the two up and down sequences, which can each be varied five times by accentuation, we have 22 irregular five-finger sequences, we can see that the attempt to solve these questions by means of the roll is one of the most remarkable in piano pedagogics.

A wide stretch between thumb and fourth finger on account of the long leverage, necessitates only a very slight turning of the forearm to produce a tone. A short stretch, however, as for the trill, would on account of the extremely short leverage, call for so wide a roll as to prohibit speed, unless assisted by the fingers. That the roll in some cases materially assist the trill, need not therefore be denied.

We see, then, that with a wide span the roll is indispensable, while as the span narrows, finger action becomes more necessary.

However, "one man's speech is no man's speech; both sides should be heard." Herr Breithaupt says: "The trill is an absolute no-finger play, without lift or muscle action—a side-shake of the slightly hollowed hand."

Weight Technic

Weight technic embraces not only the control of weight, but also its diffusion through finger action. The weight utilized is decisive as to the highest degree of finger strength that can be reached. Such weight, however, is not practically used if the acting fingers are too slow in descending, or if the weight is sustained by other fingers at rest upon the keyboard. In weight

*A "settling" of the fingers is also necessary in individual finger action, if it is to achieve its greatest possibilities of evenness and speed. Likewise are there "dead points" in finger action. The fourth finger and thumb, for instance, do not individually respond as quickly as does the index finger, and can never equal it either in velocity or endurance. The question as to speed lies between the roll and the least able finger.—TRANS.

playing everything depends upon how slowly or how quickly the weight is shifted from one finger to another, and how quickly the individual finger can turn from its relaxed condition of inaction to the brief tension of touch-contact. Since weight action is slow, the finger muscles, to transmit the same promptly, must be more or less tense at the moment of contact. Finger power depends upon the suddenness with which this tension can be assumed, the amount of weight qualifying the degree of tension.

We can readily see that passive weighting is not sufficient for producing the highest power. Something must be added. In legato playing it is greater arm pressure, that is, a stiffening of the muscles of the upper arm and shoulder. In non-legato it is done by means of fall, throw, or blow of the arm, effectively, as in the other case, through an additional stiffening of the intermediate joints. Dr. Steinhausen is therefore in error when he says that all increase of tone is due to a quicker and longer stroke of the arm.

The Transference of Weight

In how far pressure alone suffices will, of course, depend upon the actual weight of the arm, varying with each player. A strong masculine arm will have at command an extensive strength-scale where the arm of a weaker woman or child would need more or less active pressure. This should teach us to consider the dynamic capabilities of each pupil. It is also advisable seldom to go beyond passive weighting, since it is possible to tire or even to exhaust the muscles to a momentary inhabitation of their use. According to Dr. Steinhausen we should never utilize weight except passively.

While in quick passages weighting must be in proportion to the amount of tone desired, we may in slow passages recommend it even for soft effects. In rapid passages the transference of weight to each finger must take place quickly, while in slow play it can be done either slowly or quickly. Quick weight-pressure can be attained as well by a quick lifting of the finger last used as by a quick lowering of the one to play.

The "moderns" look upon the arm-swing as primary and upon the resulting finger-action as secondary and therefore not positive. "The finger is only the swinging part of a swinging whole—the arm. One moves and swings with the other" (Breithaupt). "The fundamental form of touch is a swinging movement of the whole arm from the shoulder downward, in connection with a swinging roll of the forearm and an accompanying swing of the hand and the joints of the finger" (Steinhausen). "In the single throw the only active force comes from the shoulder; arm, hand and finger follow passively. If one has thorough control of this style of play, a rapid tempo imparts more and more feeling as if the fingers acted of their own volition. In a sense this is deceptive, since a spectator even less than the performer himself can notice any difference in action, but the tone will show it to a sensitive ear" (Bandmann). "The throw, a continuation of the impulsive swing from the shoulder, does not permit of an admixture with active finger motion, in fact, it replaces such motion. Whoever has learned judiciously to utilize the physiologic peculiarities of the throw, is enabled by means of the forearm roll to execute not only the fastest trill, but also scale work and chords, without active use of the fingers" (W. P. E. de Hart, in *Klavierlehrer*, 1908, No. 4).

"The 'sacred' immobility must at last be put an end to, and hereafter a dunce-cap be given to anyone who should still persist in executing special finger-trill exercises and such other refined cruelties" (Herr Breithaupt).

Well, we must wait to see whom finally the dunce-cap will fit!

Don't Depend Upon Your Gift

By C. W. Landon

MANY of the brightest pupils have been virtually ruined by parents who have admitted before the child that he has "a gift." The pupil then imagines that he is some sort of a superior personage who will not have to work as hard as other children. He depends upon his "gift" instead of upon hard work for success. He forgets that even the diamond must be polished before it attains its brilliancy. Plaidy said "A man's merit depends upon the amount of industry and exertion he bestows upon the object he desires to obtain. He that has been gifted with talent by nature has no right to look upon these gifts as his own dessert, but as an obligation which heaven has imposed upon him."