

pp40 It is this possibility of flinging the hand down or out through the wrist joint which gives the wrist a very specialized value for the pianist. It means, as with the crack of the whip, that power used through a very small arc can produce the movement which will cover a much wider arc of distance. Thus, a quick small movement at the elbow can fling the hand in such a manner that it will cover distance—horizontal, vertical, and in-and-out—expertly. This is great conservation in movement.

A prime necessity of speed and brilliance is a compactness in the use of power for control of distance as well as for tone. There has been much discussion concerning a “loose wrist.” The wrist is only effectively “loose” when it allows an action farther back in the arm to propel the hand through an arc of distance. Then its “looseness” is of the utmost importance.

The determining factors as to whether the muscles governing the hand are active or passive as the hand takes distance are the matter of the arc of distance and whether one tone only is produced with a down action of the hand or forearm, or whether one down action of forearm or hand must cover the articulation of two or more tones.

Illustration 3 (Chopin, Etude, Op. 10, No. 7) uses a drop of the hands for the thirds and a “thrown” hand for the sixths. The thirds are always the trouble makers in this Etude because the down action needed for articulation must be taken with hand or fingers. If the fingers take over, it is hopelessly fatiguing. If the hand takes over too soon, it is still too tiring for any real virtuosity in playing the Etude. A quick flexion at elbow must throw the hand down, and the top arm staying down as fulcrum takes the key-drop. The hand becomes simply the extension of that down action.

Illustration 4 (Chopin Etude, Op. 25, No. 9) is a pattern showing one flexion of forearm covering two articulations by the hand (two middle 16ths) and one extension of forearm is divided between the fourth and the first 16ths of the group.

Illustration 5 (Chopin, Prelude, Op. 28, No. 8) aptly shows alternating action as related to finger action. Here the hand is not dropped or thrown by action of the forearm, but has movement controlled through the wrist. Extension of the forearm is used with the thumb, and one flexion of the forearm covers the fingers used between thumb actions.

Rotary action. Rotary action is well known as an incomparable asset in playing. Its combination with the alternating action makes the technique of the forearm loom large in any facility which qualifies as virtuosity.

Passing. Here we are faced with a welter of stress in traditional teaching concerning the exact movements that should take place with finger and thumbs.

If I could blast these concepts right out of existence I would not hesitate to do so. That is how faulty and pernicious I think they are. They can literally cripple a pianist if they are put into actual operation. Virtuosity demands that this technique of passing the hand along the keyboard be a blended activity involving every possibility from shoulder to fingers. Certainly that can only mean that the action is initiated at the center of the radius of activity and not at periphery. Thumb and fingers follow through with perfect timing, but they do not and should not initiate the control for either distance or power. When a movement is necessitated for the completion of an act, nature will supply one which is right in proportion..

pp59 Chapter 7 Imagery-Memorizing-Pedaling-Phrasing-Channeling of Emotion

There are few short cuts in working for perfection. Imagery is one of them.

Failure in achieving a result, when working with a planned procedure which includes many repetitions of the balky passage, can sometimes be turned into success by a flash of good imagery.

When all is said and done, we do not know so very much about what actually happens in the body to make beautiful playing a reality. Nature has far greater skill in action than teachers have in making an analysis of that creative activity. Imagery touches off that capacity which is inherent in a skilled coordination.

We are accustomed to acting upon a thought. All we need is a desire, an imaged result, and we move and act expertly to get the thing we desire. What we do in action as a means to the result, we are totally unaware of most of the time.

Imagery suggests a kind of result. Say, for instance, you are dealing with a hand that is flabby or a hand that is tense. Either condition will change instantly if it is suggested that a delicate flower be held in the palm in a manner which will not crush it.

pp60 I have no illusions concerning the effectual shifting of habits because of having read a printed page. Bot of one thing I am quite sure: whatever definite results do take place will be based on the working of some imagery.

When imagery has worked its charm, that is the time when it will be possible for the intellectual concepts of action to assist in the learning. “Imagination is more powerful than knowledge,” says Einstein.

MEMORIZING

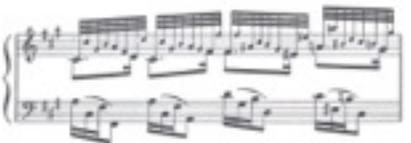
Here we are dealing with established habits of learning if, as is the case with this entire discussion, we are dealing with the problems found in players. But the players are not too different from young beginners, except that they have had more time to fix their habits. The young beginner needs smaller doses at a time and more frequent and greater assistance with practically no discussion of technique. He has no established concepts. Nature only needs to be given a chance.

I can sum up all that I know in relation to memorizing as follows:

With sound, the medium in question, the aural image is the only reliable memory. One recognizes music by its sound and in no other way. It is that image of the sound, with accuracy as to pitch or excellent relative pitch, which gives security in memorizing. It is the aural learners who have security with music memory.

Muscular habits in production of tone will determine the habits of listening and thus have a very definite bearing on memorizing. Note-wise procedure (single initiations of power, as with a finger technique) will develop note-wise listening, and that will hamper facility and security in memorizing. Muscular habits which correspond to a continuous flowing rhythm are a constructive assistance to memorizing. They keep attention on the statement as a whole, and parts are assimilated because they contribute to the meaning of the whole statement.

No functioning is at its peak of expertness without a fundamental rhythm acting as the one coordination for action. But no kinesthetic memory, of itself, is completely reliable—and least of all the note-wise finger type. Miss one tone and the entire listening and playing continuity can be destroyed.



The visual memory also is unreliable. A photographic memory can be of real assistance, but not many people have one. Even this kind of expert visual memory, however, is not what makes for a musical memory. Sight does not deal with sound, and for that reason it is not the memory to be stressed.

Association of ideas—this, for the musician, very largely means harmonic analysis. It is very doubtful that harmonic analysis actually functions at the time that playing is taking place. It is more valuable in influencing the manner of interpretation than in memorizing, as I have observed in students. For music, the aural image and basic rhythm are the two most productive factors in memorizing.

Since most students do their work by themselves, rote learning is not practical. If it were, I should put it first as a means for developing the aural image. If the eyes have never been involved in the learning, if ears alone have guided the movements that find the tones on the keyboard, there is the valuable “first experience” lending its tenacious quality to the most expert tool of remembering.

Net to rote learning comes transposition, which is completely practical for the student to develop by himself. The goal is a transposition by ear. If that is not possible in the beginning (that is, after one hears the page by having playing the music) then use the printed text. The ear is inevitably involved in transposition, no matter what other processes are active at the same time.

Use the three keys immediately above and below the original, in transposing. Use a different key each day, and after each transposition try the composition without notes in the original key. If the music is written in the key of D, use Eb, E, F, Db, D, and B for transposition. And play in D between each transposition, without notes.

It is easier for most people to transpose to a tonality not far away from the original key. Using a variety of keys for transposition and playing in the original key between each two transpositions, fixes the kinesthetic patterns in relation to the original key, which is desirable. Transposition does take time but it is time spent constructively. It extends one’s capacities. Little by little there is developed a greater security, a greater sense of the sound of the keyboard. The ears learn to guide the movements to the key—which will produce the desired sound.

Nervousness in playing may be caused by a number of things, but certainly the fear of forgetting contributes to a great extent to that nervousness. When this is true, nothing but greater security in the aural memory can dissipate that nervousness. Transposition is the best means which I have found to be both practical and productive of the desired result.

pp63 **PEDALING**

Too much has been written on the subject of pedaling to make any long discussion here profitable. Also, good editing has been done in this field. There are a few main issues to keep well in mind:

Never allow the use of the damper pedal to become an outlet for rhythmic expression. That is, do not let movements of the foot, in relation to pedal, become a channel for feeling the meter. Excellent musicians frequently tap a meter with the foot, but that tap is not in connection with the damper pedal. Work without the damper pedal until there is a habitual expression of spacing and rhythm in the fulcrums of the playing mechanism.

The better the playing, the less the damper pedal is used. It should never be allowed to blur the etched outline of musical progression.

The soft pedal should be used more as a violist uses a mute than for producing a soft tone. It can be most effective in producing a subdued passage, followed by a sparkling passage when it is released. It is of very little value for merely playing more softly.

The sustaining pedal is effective in holding musical organ points, and is often indicated by the composer when it is desired.

PHRASING

If phrasing could somehow assume an integrity of its own—that is, something besides a certain kind of reaction to editors’ marks—then it could be a powerful ally of beautiful playing. At least in the teaching of phrasing, a superficiality that never significantly stimulates the right musical reaction is all too often the result attained.

The editing of phrasing more often stands in the way of finding the inner meaning of the music than it helps. That is the case, of course, because there is no physical counterpart of that phrase—no movement that is continuous and intensifies its meaning.

What is good phrasing? Is it not simply a clarification of the musical ideas? How does one learn to become acutely aware of phrase modeling?

I am sure that nothing is adequate for answering these questions except a greater and greater sensitivity to a long-line rhythm. When such a rhythm possesses and expresses the performer’s reaction to the music, he can hardly fail to put forth phrases of grace and charm. When such a rhythm is absent from a performer’s equipment, there can never be graceful phrase modeling.

No cognizance of phrase marks can tap the roots of illuminating playing. It takes an emotional rhythm to do that.

Thus, I would like to have phrasing mean, first of all, an absorbing rhythm; and, after that, the handling of the details of phrasing to augment that rhythm and not to destroy it.

pp76 Chapter 9 **Analysis of the Playing Mechanism as Related to the Use of Power Plus Distance: Repeated Action—Trills—Double Notes—Octaves—Arpeggios—Scales**

It might be well, in this analysis of the use of power, to place in bold type at the top and bottom the page (like advertising in a telephone directory) a line which reads, “*Most technical difficulties which persist are the result of reaching with the fingers for key position.*” This reaching with the fingers practically insures the result that the fingers will act independently of the arm—they will get there first; and when they do they furnish the power for tone. Then it is that no feeling of complete efficiency in playing ever appears. Fingers have been publicized as the all-efficient tool for playing. They should be publicized as simply the periphery of the playing mechanism.

Tradition is responsible for this error. The ancestors of piano, such as the clavichord and harpsichord, could be played with finger power, through it is very doubtful that any one of the truly great artists on these instruments ever used that power divorced from a basic rhythm. But also it is easy to believe that all but the truly great did use that power divorced from a basic rhythm, for that is what happens today.

A supremely great artist can be subjected to a traditional finger technique and still have a coordination which is integrated with a basic rhythm. But all but the very few great talents will be so damaged by this over-emphasis on the finger training that they can never fulfill the talent exhibited in childhood.

Quite naturally the great artist who comes through into his full stature spends his time with music, not with the analysis of his movements in producing it. His great gifts would almost preclude his being able to analyze his own playing even if he were interested. So when he is asked to explain the prerequisites of his success, he tells the story of what he was taught—quite unaware that he is not stating a complete story of what he does.

It is like the story of the great scientist, Noguchi, explaining his experiments. So far as he was aware, he told the whole story, but he could not be aware of his natural adaptability for making all the infinitesimal movements involved in carrying out the experiments. His bodily skill defied analysis. Thus when students tried to follow his directions the experiments did not succeed. Something had been left out which was vital to the success of the experiment.

First and last, remember that only a rhythm can produce the complete coordination for playing. It alone can work the necessary magic. No analysis with words can do more than hint at the blended activity which really takes place with sensitive playing. So unless a rhythm is kindled and burns with an increasing light, there will be little assistance from an analysis of the mechanics of playing.

The top arm plus the torso kindles the rhythm. Unless the mechanics of tone production are completely synchronized with this rhythm, they will remain mechanics unrelated to the actual blended activity which produces successful playing. The torso acts as a fulcrum for the arm which is the equipment for delivering power to the key.

In making this analysis it is taken for granted that rhythmic grace with top speed and power are the goals to be attained; for if they are achieved there will be a mechanism which is adequate for a pianissimo and beautiful melody playing.

The manner in which a repeated action (doing the same thing over again with a lever) is used, becomes a determining factor for speed, brilliance, greatest possible ease, skilled manipulation of dynamics, and subtlety in rhythmic nuance. Therefore, if this statement is true, it is this repeated action which assists or hampers all the desirable attributes of playing.

A repeated action is necessarily in constant use if brilliance with speed is achieved, for it happens automatically except when fingers alone are being used for tone production. Fingers alone never produce brilliance with speed or speed with brilliance. It takes the total playing mechanism to achieve that.

It is the manner in which a repeated action is used which avoids a note-wise progression and establishes listening habits that attend to a musical unit rather than to one tone at a time.

A repeated action, properly used, always absorbs the production of at least one tone during its process of repetition—while it is taking place. This means a smaller lever tucks in a tone while a larger lever is repeating its action.

A note-wise procedure means a separate use of power for each tone—exactly what is achieved by independent fingers producing the tone. No note-wise progression can duplicate in beauty what a phrase-wise progression achieves.

This repeated action takes place with top arm, forearm, and hand. Or saying the same thing another way, at shoulder, elbow and wrist. (Note the absence of fingers.) The *top arm* repeated action initiates the basic rhythm as it is associated with the important tones of a phrase. It takes the key-drop and produces the power for those important tones. While its repetition is taking place, the forearm, hand, or fingers tuck in the modifiers of the phrase, the less important tones.

pp79 The *forearm* is the natural implement for a fast repeated action and its action is the central control for fast articulation. Its repeated action is always associated with the action of hand and fingers. That is, the hand and fingers operate inside its repeated action—while it is going on.

The *hand's* repeated action, which is desirable for performance, is the part it plays in the alternating action. The alternating action, plus rotary, should always share production with fingers. The fingers play inside the hand's repeated action—with it—while it is taking place.

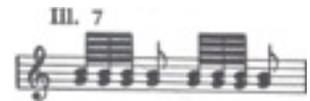
This relationship in repeated action *is* the blended action which produces all beautiful playing: top arm absorbing forearm, forearm absorbing hand, alternating action (forearm and hand) plus rotary absorbing fingers.

The following example will serve to indicate the tremendous advantage of a repeated action which absorbs another action during its repetition. The entire analysis will deal with this principle.

Here are four articulations. Each requires a down action because tone is produced by a vertical key-drop. Each down action by the same lever demands a coming-up action as preparation for the down action.

Produce the four octaves with the down action of the forearm. Play them fast. It feels fast. The coming-up actions are non-productive of tone. Now, as the forearm flexes (the coming-up action), flex the hand (the down action). The down action of the hand can produce G while the forearm is coming up:

getting ready to produce G#. Four tones for two repeated actions will be the result, instead of four repeated actions for four tones—the same speed of tones (or faster) for half the speed in repetition. That is the simple truth. That is the answer to playing which is tremendously fast and yet does not seem tremendously difficult. One salient fact in dealing with the repeated action is the constant motivation involved in the top arm. Remember the formula: top arm absorbs forearm; forearm absorbs hand; alternating action plus rotary absorbs fingers. Nothing will work out right if the activity in the top arm is ignored. It will be established habits of reaching with the fingers which will prevent the formula from working, and under these circumstances there never will be any sense of mastery of the instrument.



The involvement of the top arm can easily be sensed by playing this very fast rhythmic pattern of double thirds:

Make it sound like the rattattattoo of the woodpecker, or the roll of the snare drum. If it comes off with gusto, it will be produced in just one manner. No instruction is needed, for there is only one easy and efficient way to accomplish this. Any way except with the forearm taking the key-drop is too difficult. The forearm will always take over for a fast brilliant repeated action of short duration. It cannot keep the speed of the snare drum roll going for any length of time without the playing feeling strained and difficult, but the short roll will feel easy and efficient, and can be very fast. Do it a number of times and then observe the top arm. What is happening there? By no stretch of the imagination can it be called inactive. It is almost violently involved. It will practically take over the production of the last tone and it certainly takes care of the first. And in between it is actively involved in staying down and acting as a fulcrum for the activity of the forearm. It has its own repeated action, but it does not take care of consecutive tones. It takes care of the important rhythmic tones.

pp81 The trouble is that when the speed involved in this rattattattoo is not present and the demand for cooperation is not so great and obvious, the top arm is all too frequently ignored and allowed to be less involved in production of the power for tone. It should always be the tap root for the power in playing. When it is, the necessary attributes for beauty can all be synchronized. Without it, all playing is less adequate and less productive of sensitivity in the use of power—the dynamics for phrase modeling.

OCTAVE TRILL

A trill produced with the cooperation of top arm and forearm will not only be a thing of beauty and a joy forever, but it will serve to enhance the beauty and ease of all fluent passage work. That is certainly not true of a trill produced with finger power. The latter is difficult and requires constant attention to keep it in order; and it never fits graciously into the curves of the music or promotes fluent passage work. Worst of all, it leads to note-wise listening.

The trill is a musical pattern which is never found readymade except with a real playing talent. When it is found, there is no need to doubt that here, so far as technique is concerned, is a big gift.



If traditional teaching had only observed a talented eight-year-old trilling and adopted his manner of trilling, all the rest of us might have been saved a vast amount of unproductive labor. Unproductive not only because a finger trill is the hardest means of trilling, but because it breeds habits both in listening and playing which are detrimental to rhythmic grace. A finger trill means a note-wise procedure and note-wise listening. That is the fundamental reason for discarding it.

There is economy in effort if the single trill is produced with the same habits of action which are a necessity for the octave trill. More than that, it is an effort which is a constructive factor in furthering a blended activity, right for all musical patterns, and for listening habits conducive to beautiful phrase modeling.

Certainly a single trill can be played with fingers and beautifully played. It is to be observed in use by many artists. It is also to be observed that there is no consistency in their manner of playing the single trill. But there is consistency in the manner in which these same artists will play the octave trill.

What does that mean? Simply that there is only one way this octave trill can be played with efficiency. Using only a part of the whole arm mechanism for playing is inadequate to produce the octave trill. It takes the blended activity of the entire arm.

Since a blended activity is demanded for virtuoso playing, if it can be started on its way and helped to perfection by the trill, great economy in time and effort can be achieved by using the trill. The fact that the trill demands the utmost in subtle blending because of its compactness, makes for efficiency in starting with it. It also makes a demand for thorough understanding of what goes into virtuoso playing. If one can effectively start a blended activity with a trill, it is an excellent place to start. The same combination of leverage can be used for all trills and for all playing, but always there will be a variance in the proportion of activity between the octave trill and the single trill. It is this variance which causes the confusion in ideas concerning the method of trilling. This same variance is a major factor in acquiring all technical facility. But if a blended activity is the corner-stone of all the habits acquired, then ears and rhythm have a chance to take care of this variance in leverage. This defies any factual analysis but it can be suggested.

The reason for using the trill at the beginning of the analysis of power is to establish a repeated action: a repeated action attached to the primary tone of the trill, while the other tone is tucked in by a different lever, or, rather, levers. The primary tone is simply the tone which starts the trill. In the octave trill it is reinforced—the octave adds to its rhythmic importance. This repeated action is easily thwarted by the habit of note-wise listening, supposing there has been an established trill with fingers. That is, the trill will neither feel like a repeated action nor will you attend to it as such. It will remain two tones of equal importance, produced by separate initiations of power. If it is argued that the two tones *should* be of equal importance, there is only one answer: listen to the artist play this trill and see whether you attend to it as two tones of equal importance or whether you attend to it as a rhythmic musical pattern.

Playing the trill as a repeated action does not require unequal dynamics in producing the two tones—the trill need not sound uneven. It must, of course, be a beautiful trill, have evenness in dynamics and spacing; but also it must be an embellishment creating beauty. That can mean only one thing: that it does not stop the flow in progression of the musical idea it is embellishing. Certainly the flow in progression, musically, cannot include note-wise listening nor note-wise progression physically—nor an interruption to the basic rhythm—without being damaged. These are the real reasons why the trill should be produced with a repeated action which absorbs one tone into its repetition. It can foster the repeated action which is necessary for all beautiful playing.

For this very reason, never treat the trill as mechanics. Treat it as a very beautiful adornment—use it as a part of the rhythm of the phrase pattern as a whole. Let perfecting it into equal spacing and equality in intensity of tone production come after the rhythmic repetition has been established.

^{pp84} Rhythm first is always a necessity for the final accomplishment of satisfying results in every instance, musical or technical. The full arm makes the initial contact with the keyboard, assuming the playing stance. In the discussion of the trill, principal tone or first tone simply indicates the tone which starts the trill. The three trills used will illustrate the repeated actions of top arm and forearm in relation to the principal tones and the tucked-in tones.

The combination of top arm, forearm, hand, and fingers works to fold up or lengthen out the arm. In this process, some levers are coming up while others are going down. It takes a down action to contact tone. Up actions are negative so far as taking the key-drop is concerned, but they are positive in implementing the down action.

It is exactly in relation to this reciprocal kind of action, the forearm throwing the hand into action, for instance, that the wrist joint is so spectacularly efficient. There must be movement by the hand which is dominated by the forearm—that is, there must be the combination of activity whereby a tiny fast movement produces a movement through a wider arc, for conservation in the use of distance and power. It is like the relation of the whip handle to the tip which snaps. For the pianist, this relationship is between forearm and hand.

This involves the so-called “loose wrist.” The trouble with talking about a loose wrist is that it does not indicate the necessary vitality elsewhere which makes the looseness effective. Looseness at the wrist is no virtue except as it is in operation with a vital action—then it is a necessity for extending a small action into a larger action, and to allow powerful muscles to produce a large proportion of the power for tone.

The top arm is the central control for the entire coordination of power. The forearm is the center of the control for an articulation which possesses both speed and brilliance. It is the action of repetition of these two large levers that dominates a technique which possesses real virtuosity.

The top arm and forearm are the positive arbiters of power in playing the piano. They can take all the strain out of playing if they are properly used. If this repeated action is clearly understood in relation to these trills, a mechanism can be established which will function throughout the entire gamut of playing patterns. Never lose sight of the fact that in trilling only a fraction of the distance of the key-drop is used. Increase that distance unnecessarily and nothing will work with dexterity. The key is never allowed to come up to its top level. It comes up only far enough to make another tone possible. If the power of the top arm is balanced against the resistance of the key action at just the level where the hammer trips, it can be used through a very tiny arc of distance. This is a necessity for its efficient use with speed.

Top arm initiates and maintains the control of level for all trilling, as it does for all virtuoso playing. This is partially imagery, for the top arm is dependent up on the forearm, hand and fingers for maintaining contact with the key. But it is imagery very closely related to fact.

It is the sensing of a level with top arm which is present when the top arm acts as a fulcrum for the forearm. Either the top arm is taking key-drop and producing tone, or it is maintaining the level and gauging the action of the lever or levers which are actively taking the key-drop

The glissando is the best possible illustration of this maintaining of level by the top arm.

Have this control of levels by the top arm a vivid reality before trying the octave trill.

When one says up and down for key action, or arm action, it is easy to think a definite up action or a definite down action. There is no such feeling in this up and down involved in using power at key resistance. The actions are so tiny and so dovetailed that all one feels is an active alertness to keep the key between its top and bottom levels. It is this kind of subtle up and down balance with which the top arm activates its control in trilling.

With this balancing there is activity at all the joints. This activity is of two kinds: creating a unified bony structure for power to play against, or reversal in action at some joints so that the key can come up.

This interplay of vitalization using reversal of action at various joints is the basis of expert trilling. It will sound crude and is crude in the analysis. In actual performance it is of infinite subtlety. Observe the glissando: the relation of the vitality in the pull of the top arm to the play in activity at the hand knuckle joint of the finger. One cannot think that activity of finger. It is just there in relating the power of the arm to the key-drop. It is absolutely necessary but it is a complementary action. It is not the positive power which is producing the glissando. There is that kind of relationship to the power of the top arm in all virtuoso playing. The periphery assists but it does not initiate, independently of arm. Keep track of the repeated action of the top arm and forearm. Never let them go by default because the fingers become too active.

No one knows any better than I do that making that suggestion isn't going to cure fingers of doing more than their share in trilling. And only when they are cured of independence and learn to assist rather than to initiate will these trills, involving a repeated action of top arm and forearm, operate with fluency and brilliance.

Ask any small boy to show you his muscle. He will violently flex his forearm. Note how automatically the top arm is involved. It pulls toward the torso and is just as active as the forearm.

This pull of the top arm with flexion of the forearm is the clue to the trill. Flexion with the forearm does not produce the down action which is necessary for tone production, but it is a component part of the pull of top arm and flexion of the hand which do produce the down action necessary for contacting tone. The hand can only go down in relation to the forearm as the forearm is raised, because there is a fixed level at the keyboard at which the hand always operates. The pull of the top arm is always involved with the level at which tone is produced. Use this pull of top arm with the flexion of the hand, and the flexion of the forearm as the connecting link, for producing the octave of the trill. Repeat the octave with this combination of leverage. Then, while this repetition is taking place, tuck in the single tone with extension of the forearm, with finger action (flexion at hand knuckle joint) synchronized with forearm extension, plus rotary action. If the single tone is produced with this combination of leverage there is no lack of power for producing a tone of equal intensity to that produced with the other combination of top arm, hand and forearm. At this state refer to the goal of developing and utilizing the repeated action.

If rotary is allowed too wide a play in its combination with finger action, it will easily and almost surely exclude the forearm extension. Exclude the latter, and the combined leverage for the repeated octave will be displaced. The octave will also be produced with rotary and fingers. Rotary never makes the same demand on top arm sharing that the alternating action makes. This is the grievous lack when it is allowed too much responsibility. Put the responsibility squarely on the alternating action and rotary will add its expert skill. This is of great importance. Too much rotary action will produce a tone-wise listening, the very thing which must be avoided for all beautiful playing.

All trills should feel like a repeated action and be listened to as a repeated action. Keep the combination for producing the octave a vivid sensation, and achieve its repetition until the single tone can be tucked in without in the least interrupting the physical sensation of repeating the octave.

Then never forget the all-important factor of rhythm. Never put too much faith in mechanics. It is a rhythm which always turns the trick. *Use the trill, feel it and listen to it as a repeated action, as part of a musical idea.* If it is needed to round out the musical statement and to heighten its dramatic effect (and not felt and listened to as separate tones), it will be absorbed into the rhythmic progression of the phrase. It is only when a compelling rhythm manipulates the combination of leverage—actually forces a blended activity in order to produce the desired results within the musical framework—that all the requirements for playing this trill come into being.

Pp88 SINGLE TRILL

The difference in the way an octave trill and a single trill is produced is enormous in most instances, as one observes them in virtuoso performances. This difference furnishes an excellent example of the great dichotomy which exists between the activity which is taught and the activity which is actually necessary for top performance. The octave trill cannot be successfully played except as the whole mechanism is involved, so every talented person just uses the whole mechanism when it is demanded, with complete disregard for the teaching. The results turn out to be uniform. The octave trill can only be accomplished with brilliance and speed when the top arm and alternating action are producing the expert use of power for tone. But the single trill is a different matter. It can be played with the fingers, in accordance with traditional training, and thus the teaching will take. Once it does and the trill is produced with finger control, it is the most difficult of all playing habits to supplant with a repeated action. The ears have listened always to two tones; they will see to it that by hook or crook a separate initiation of power for each tone is achieved. They have learned to listen with these individual initiations of power by the fingers. They can only change that kind of listening habit once there is a production which will absorb at least one tone while another is being produced—a repeated action.

But how to establish that repeated action in spite of all the physical habits of production by fingers plus note-wise listening habits—that is the question: Of course the answer is that production gets involved with rhythmic progression. But saying that is certainly not going to make a dent in any of the trilling habits. In fact, nothing will do any good except a conviction that any kind of misery is worth the effort if note-wise listening can be thwarted: knowing that if note-wise listening persists in any crook or cranny of the playing mechanism it can easily spread like mustard in a wheat field to the entire area.

Perhaps the most efficient manner of achieving a single trill with the same repeated action which is demanded by the octave trill, is to slip up on it unawares by doing something else which is closely related. Find an attractive composition with fast repeated double thirds and learn to play it with a luscious rhythmic grace. Make it a thing of beauty because a basic rhythm makes it melt and run in a smooth lilting fashion. Then one day, without damaging that lilting rhythm in the slightest degree, open the double thirds—that is, sound the two tones singly instead of as a third.

The Shostakovich Prelude, Op. 34, No. 15 has worked in this manner. A pupil happened to be playing it and had achieved a rhythmic grace in performance. All efforts to master the trill with a repeated action had failed—the fingers always took over. One day, without warning, I asked her to open the thirds (in the middle of a performance). The blended repeated action held and there was the trill just one key removed. The next time we tampered with the Prelude and used seconds instead of thirds, and when they were opening the trill appeared. It took some time to carry over into trilling, but eventually it did.

For learning the details of production with a repeated action, an excerpt from the Chopin Etude, Op. 25, No. 3 is useful:

pp90 Once achieved with a repeated action, it means a beginning. It does not necessarily mean success in transferring the sensation directly to a trill. But eventually, if there is sufficient belief in the importance of possessing a trill with a repeated action in order thoroughly to choke out note-wise listening, a connection can be made. This trill with the new repeated action will neither feel expert nor sound even and brilliant for a long time. It will just be a thorn in the flesh. But the fact will remain—a trill with a repeated action can be both beautiful and easy to play; and when it is accomplished it lends itself in a marvelous fashion as an embellishment, for there will be no note-wise listening to it. It will enhance the rhythm of the phrase.



