

HUTCHESON. THE ELEMENTS OF PIANO TECHNIQUE



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THE ELEMENTS
 OF
 PIANO TECHNIQUE
 by

Ernest Hutcheson.



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PREFACE.

Many of the exercises contained in this little work are purely preparatory in nature. Others are for occasional or special use. Only about twenty are permanently essential. All are necessary at some stages of study or to some pupils, but the teacher should not hesitate to omit as many as can be spared in each individual case. Preparatory exercises, for instance, such as Exs. 1, 2, 11, 16, 20 - 26, etc., may be discarded (except to correct relapses) when once they have thoroughly served their purpose.

It has been my aim to reduce the exercises to the greatest possible simplicity and to give the most exact directions for practising them properly. The form of an exercise, however, may often be modified with advantage to suit peculiar needs.

"Advanced" technique is altogether excluded, because I disbelieve in the necessity or expediency of spending time on it. To the pupil who has really mastered the elements of technique, the studies of Czerny and other composers supply all that remains lacking in mechanical equipment.

The "Notes to the Teacher" perhaps require some apology. I have given them for the sake of the many teachers who, not claiming to be accomplished performers, gladly recognise the value of occasional hints from a practical pianist. These notes, it is hoped, will also be of benefit to advanced students.

It is not for a moment pretended that this short treatise is in any respect startlingly original. No particular "method" is advanced or defended. I have merely endeavored to bring the best ideas contained in a large number of modern works into a small compass, discarding everything unessential and repetitive. Some of the books which have been consulted are:—

Zwintscher, *Technical Exercises*.

Kullak, *School of Octaves, Book I*.

Maria von Unschuld, *Die Hand des Pianisten*.

Malwine Bree, *The Groundwork of the Leschetizky Method*.

Moszkowski, *École des Doubles Notes*.

Schmidt, *Das Pedal des Pianoforte's*.

Busoni, *Notes on Bach's "Well-Tempered Clavichord"*.

GENERAL DIRECTIONS FOR PRACTICE.

1. Sit before the middle of the keyboard, about so high that the elbows are on a level with the keys, and *forward* in your chair. The chair must not be too near the keyboard.
2. Do not stoop. The upper part of the body, indeed, may lean slightly forward but the shoulders should not be rounded. Do not make faces.
3. *Watch* your fingers as you practise.
4. *Listen* to every note you play, and judge whether it sounds well or not.
5. Try to *improve* whatever you are studying, not merely to *repeat* it mechanically.
6. Nearly all the exercises in this book are written out for the right hand only. The left hand is to be played an octave or two octaves lower, as the teacher directs.
7. Nearly all the exercises are meant to be transposed into different keys, keeping the same fingering. Those not intended for transposition are marked C. It is a good plan to choose a new key every week, or every three days if preferred.
8. Practise *slowly*, and usually with only one hand at a time, at least until you know the exercise thoroughly.

SECTION I.

Hand-position, Finger-action, and Touch Exercises.

Exercise 1.

Place the fingers on the notes:—

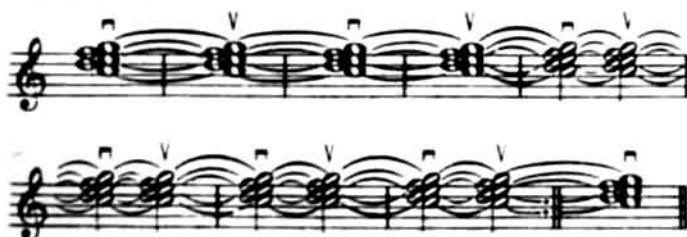


Directions:—

1. Curve the fingers so that they touch the notes with the tips. Hold the nail-joint of the fingers firm, and in *vertical* position.
2. Keep the wrist low and slightly *outward* from the body.
3. Keep the knuckles rather high and firm, so that the hand will be slightly arched.
4. Do not let the hand slope downward toward the little finger.
5. Hold wrist and arm loose, and let the weight of the arm rest on the finger-tips, keeping the notes steadily down.
6. Separate the fingers from each other. Hold the thumb well away from the hand, turning only the tip inward.

This may be called the *Normal Hand-position*.

Exercise 2.



Directions:—

1. Lower the wrist at π , raise it at V : (these signs will be used in the same sense throughout the volume). Exaggerate the wrist-movements at first; afterwards moderate them.
2. Keep the weight of the arm on the keys, holding them down steadily with the fingers.
3. Hand-position as before.

This exercise is meant to combine looseness of wrist with correct hand-position.

Exercise 3.



Directions:—

1. Lift and drop the fingers with the greatest precision (see end of Note 4), counting "1 and 2 and 3 and 4 and." Keep the fingers well curved.
2. Hand-position as before. Read again the directions for Ex. 1.
3. Avoid stiffness. The wrist may occasionally be raised or lowered to ensure relaxation, but not with regularity as in Ex. 2.

A correct performance of Exs. 3 and 4 is often so difficult to beginners, especially to children, that it may be necessary to use the following preparatory exercise:—

Exercise 3. A.



Exercise 3. B





These exercises should be discarded as soon as Ex. 3. can be played without stiffness.

Other good methods of avoiding excessive difficulty at the outset are:—

1. Omitting the thumb in Exs. 1 and 2.
2. Practising Exs. 1-4 very lightly at first gradually increasing the weight of the touch

Exercise 4.



Directions:—

1. Hold down all the fingers except the one about to play. Keep them curved, and *watch* them.
2. Play *legato*. Practise slowly. Begin softly; later, increase the tone, always avoiding stiffness.
3. Lift the fingers with precision. The fourth and fifth fingers may be lifted more than the others, but the thumb should be raised very little.

Exercise 5. (*Portamento*.)



Directions:—

1. Drop the *whole* arm (not merely the fore-arm) on each note; raise it at the rests. Be sure to let the *elbow* rise and fall.
2. The wrist must be very loose and yielding. The fingers should move very little, always staying quite near the keys.

3. There must be a great deal of weight in the touch. The tone should be strong but sweet: listen to it carefully.

Exercise 6.



Directions:—

1. The same as for Ex. 5, but take care that all three (or four) notes of each chord are equally strong. Play vigorously.
2. Hand-position as usual.
3. Practise first with each hand separately. Observe the fingering, which is the same for all keys.

Exercise 7.



Directions:—

Drop the arm on the first note of each bar; lift it after the second note, but do not shorten the second note more than necessary.

Exercise 7 is a combination of portamento and legato, and is particularly instructive (though far from difficult), because it contains the germ of proper phrasing.

Exercise 8. (*Legato*.)



Directions:—

1. The binding must be perfect. Observe the different fingerings and use them all in turn.
2. Attend carefully to hand-position and finger-action. Watch the fingers to see that they lift and curve properly. When the curve is sufficient, the player cannot see his finger-nails.
3. The tone should be pure and singing. Gradually increase the strength, always avoiding stiffness.

4. Practise slowly. Only d) should ever be played fast. This is a most important exercise, and it should be practised daily with the greatest care.

Exercise 9. (*Hand-staccato.*)

Directions:—

1. Use the whole hand, letting it fall sharply and rebound rapidly. Make the notes as short as possible. Practise lightly, without weight.
2. Hold the wrist and elbow a trifle higher than usual. They must be perfectly loose.
3. The fingers should hardly move.
4. Practise a) in octaves also. In b) and c) the two notes must be exactly together and equal in tone.

Exercise 10. (*Finger-staccato.*)

Directions:—

Keep the hand quiet. Use the same finger-action as in Ex. 3, but short and sharp. Lift the fingers more than usual.

SECTION II.

Exercises for the Use of the Wrist in Legato Playing.

Exercise 11. Metronome $\text{♩} = 100$.

Directions:—

Lower the wrist at the sign π , raise it at \vee . Do not make the movements jerkily. Preserve the legato carefully, and try to produce a full, round, singing tone. The fingers need not be lifted very high.

Exercise 11 has two objects, looseness of wrist and production of singing tone. All legato melodies are played with more or less of this up-and-down wrist motion, which may be exaggerated for purposes of study. The tone should be produced by the weight of the arm, the finger-tips resting firmly on the keys.

Exercise 12.



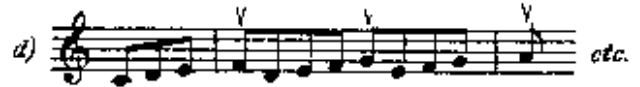
Directions:—

Continue as in Ex. 11, but with less up-and-down motion, and add a slight *outward* movement of the wrist at the points marked π . The combination of the two motions imparts what may be called a "rolling" action to the wrist. Do not exaggerate this.

Exercise 13.



Exercise 13 should also be practised with different accents, thus:—



It may also be used in the following variations:—



In all cases, observe the different fingerings, and do not forget transposition into other keys.

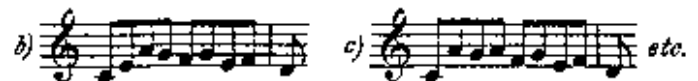
Exercise 14.



Exercise 15.



The following variations of Exercise 15 (and others, if desired) may be used:—



In practising Exercises 12-15, do not forget what has already been learned. Keep a good hand-position; use proper finger-action, attending particularly to the curve and lift of the fingers; hold the arm and wrist loose; and listen to the tone. Gradually develop strength and speed.

*) That is to say, turn it a little farther out from the body than usual.

We come now to a form of action which is often a great difficulty to beginners, viz., the *Tremolo*. The following preparatory exercise is useful.

Exercise 16.



Directions:—

At a), raise the thumb as high as possible after each note *by turning the hand and wrist bodily*, holding the little finger down as a pivot. At b), raise the little finger in a similar manner, holding the thumb down as a pivot.

Exercise 17.



Directions:—

In Ex. 17, when playing slowly, combine the motions of Ex. 16. a) and b). The whole arm will turn slightly to and fro on its own axis: it must be *perfectly* loose. Increase the speed and diminish the move-

ments until the fingers hardly leave the keys and the exercise is performed entirely by a slight but rapid shaking of the arm. The fingers need not be so much curved as usual.

Exercise 18.



Directions:—

Practise until great velocity and complete ease are attained. Small hands may substitute the following:—



Exercise 19.



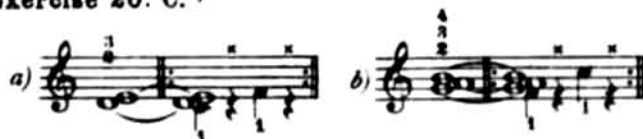
This very "stupid" exercise is included because it shows a form of Tremolo-action very common in Mozart's and Beethoven's works and often troublesome to inexperienced hands.

SECTION III.

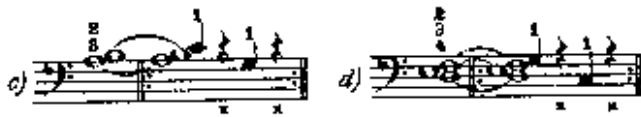
SCALES.

The peculiar difficulty of scale-playing is the putting of the thumb under the hand and of the hand over the thumb. This difficulty may best be attacked by means of the preparatory exercises Nos. 20 - 26.

Exercise 20. C.^o)



^o) Exercises marked C are not to be transposed



Directions:—

1. The wrist must be held *well outward* from the body, and must preserve this position in *all* the scale-exercises and in playing scales. The hand must not move during this exercise, but it must not be in the least degree stiff.
2. Count four. In Ex. 20 a), play C at the first beat; place the thumb on E, *touching* the note, at the second beat; play F at the third beat; and let the thumb return to C, *touching* the note, at the fourth beat. Treat Ex. 20 b), c), and d) similarly.
3. Do not lift the thumb from the keys; let it glide from note to note. The motion must be very rapid and precise.
4. Keep the fingers properly curved.
5. The small crosses indicate the moment at which the thumb must move; they will always be used in this sense in future exercises.
6. Play each repeat many times.

Exercise 21. C.



Directions:—

The same as for Ex. 20. The thumb must always prepare its next note at the sign x.

Exercise 22. C.

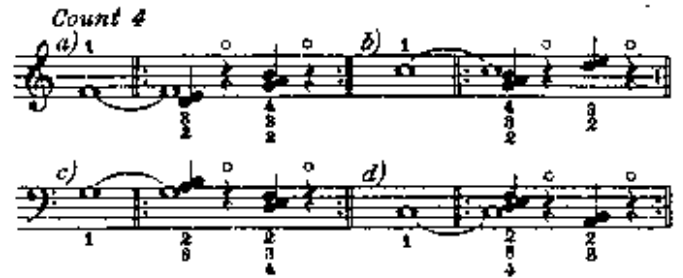


Directions:—

As above. Be sure to retain the outward position of the wrist throughout. Curve the fingers and hold

them in position exactly over their proper notes. Preserve looseness and good, even tone.

Exercise 23. C.



Directions:—

1. In this exercise the thumb is immovable.
2. In Ex. 23 a), play $\begin{matrix} F \\ D \end{matrix}$ at the first beat; move the hand to its second position (the fingers over $\begin{matrix} B \\ A \\ G \end{matrix}$) at the second beat; play $\begin{matrix} B \\ A \\ G \end{matrix}$ at the third beat; and return the hand to its first position (fingers over $\begin{matrix} E \\ D \end{matrix}$) at the fourth beat. Treat 23 b), c), and d) similarly.
3. The movement of the hand must not be made by *twisting* it to and fro, but the wrist must be held as far outward in the second position of the hand as in the first. Observe this point most carefully, for the correct movement is not easy. The thumb must yield readily as the hand passes over it.
4. The moment at which the hand should move to its next position is shown in this and the succeeding exercises by a small circle (o).

Exercise 24. C.



Directions:—

In each section of the exercise, keep the thumb immovable over its note. Avoid twisting the hand, and move it promptly at the sign o. Let all the fingers keep proper positions over the notes next to be played.

Exercise 25. C.



Directions:—

As above. Keep the fingers curved and the wrist loose, always well outward. Play with good, even tone. Do not raise the thumb.

The next exercise combines the hand and thumb movements. No new directions are required, but all those given for Exercises 20-25 must be remembered.

Exercise 26. C.



The complete scale may now be attempted. By this time it should present little or no difficulty.

Exercise 27. C.



Below is shown, by means of small notes, the exact position of every finger of the right hand throughout the scale.

Exercise 27 a).*)



The student should now proceed to practise major, melodic minor, and harmonic minor scales in all keys, at first slowly, in two octaves only, and with each hand separately.

The fingering of the thirty-six different scales is usually a source of much distress to the beginner. And yet it should not be very difficult, provided that scale-formation is understood. To begin with, do not think about the *thumbs* or where they come in the scale. If you only remember where the *fourth finger* falls you know the whole scale, for the fourth finger is used but once in each octave.

The easiest rules for Scale-fingerings are, curiously enough, little known among teachers and students. In fact, I have never seen them given in print except in Carl Faelten's "Rhythmical Scales." They are as follows:

Right Hand.

1. In scales beginning on a *white* key (except the scales of F) take the fourth finger on the *seventh degree* of the scale.
2. In scales beginning on a *black* key (and the scales of F) take the fourth finger on B \flat (or A \sharp). When there is no B \flat (or A \sharp) in the scale, take the fourth finger on the *second degree*.

Left Hand.

1. In scales beginning on a *white* key (except the scales of B) take the fourth finger on the *second degree* of the scale.
2. In scales beginning on a *black* key (and the scales of B) take the fourth finger on F \sharp (or G \flat). When there is no F \sharp (or G \flat) in the scale, take the fourth finger on the *fourth degree*.

These rules are compressed by Mr. Faelten into a clear and simple formula, of which I give a slight variation:—

*) Quoted (with a slight alteration) from Miss von Unschuld's book, "Die Hand des Pianisten."

R. H. 4th Finger.

White notes (except F) — — VII
 Black notes (and F) — — — (B^b (A[#]))
 — — — II

L. H. 4th Finger.

White notes (except B) — — II
 Black notes (and B) — — — (F[#] (G^b))
 — — — IV

There are only two partial exceptions to the above rules, both occurring among the melodic minor scales. They are:—

R. H. F[#] minor (ascending).

L. H. B^b minor (ascending).

These are fingered as follows.—

R. H.

L. H.

It will be observed that both these scales follow the rule in descending.

It is quite unnecessary to have the scales written out and fingered for study. After a little preliminary explanation, all that the pupil needs is a slip of paper with a copy of the formula. For the sake, however, of teachers who prefer to keep to old methods, I give the scales in full at the end of the book.

The irregularities of fingering in beginning and ending scales are so convenient to all players that they are never a source of trouble. I mention them for the sake of completeness.

1. In all scales following the *white* key rule, the *fifth* finger is used for the final note in the right hand and the first note in the left hand. This avoids unnecessary putting under of the thumb.
2. In all scales beginning on *black* notes, the first note in the right hand and last note in the left hand are taken by the second finger. This avoids using more fingers than necessary. For example:—

a)

b)

All the scales should at first be practised with each hand separately, then with both hands together at first slowly, then faster; at first with medium strength, then louder. When they can be played fairly easily with both hands together, they should be practised with varying accent and speed, say thus:—

Exercise 28.



They should also be practised piano and forte, crescendo and diminuendo (usually crescendo upward and diminuendo downward). Staccato, both of hand and finger, may occasionally be used. Finally, they must be practised in contrary motion.

The diatonic scales must be practised *daily*. Their importance in technique cannot be over-estimated, and every pupil should have them literally "at his finger's ends."

THE CHROMATIC SCALE.

Three fingerings are in common use: —



Of these fingerings, No. I, in which the thumb is placed on every other white note, is far the best. No. II is useful in a moderate tempo when great strength is needed.

SECTION IV.

CHORDS AND ARPEGGIOS.

Exercise 29.



c) 

d) 

Exercise 30.



Exercise 31.



Exercise 32.



Exercise 33.*)



Exercise 34.*)



Directions for the above Exercises:

1. Let the fingers remain *on* the keys throughout. Use the wrist as indicated by the signs *m* and *V* in Exercise 29, most frequently as at a), occasionally as at b)
2. The chords are to be held as long as possible, not to be played *staccato*.
3. Practise the chords *forte* and *fortissimo*. In the *fortissimo*, use the arm as well as the wrist.
4. The tone must be good, and equal for all notes of each chord. Sometimes, however, the chords may be practised with the highest note of the right hand stronger than the others.
5. Avoid stiffness.
6. Transpose into all keys.
7. The fingers can be held perfectly curved in Exercises 29 - 31. In Ex. 32, they cannot be kept quite so curved as before, and in Exercises 33 and 34 the pupil must grasp the chords as best he can.

Exercise 35.



Directions:—

1. This is a preliminary exercise for broken chords. It is to be studied similarly to Exercise 3 (see Section 1), except that the fingers cannot be held quite so curved except by large hands.
2. Use corresponding exercises in the inversions of the chord:—



3. Various positions of seventh-chords may be studied in the same manner.

* Exercises 33 and 34 must be omitted by young pupils with small hands.

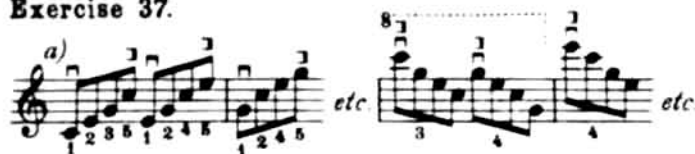
Exercise 36.



Directions:—

The same as for ordinary legato exercises. Turn the wrist slightly outward in approaching the notes marked 3.

Exercise 37.



Directions:—

1. Drop the wrist slightly at the first note of each group or figure. Turn the wrist outward when the fifth finger is used.
2. Exercise 37 should be practised with varied accents, thus:—



3. The following variations are also useful:—



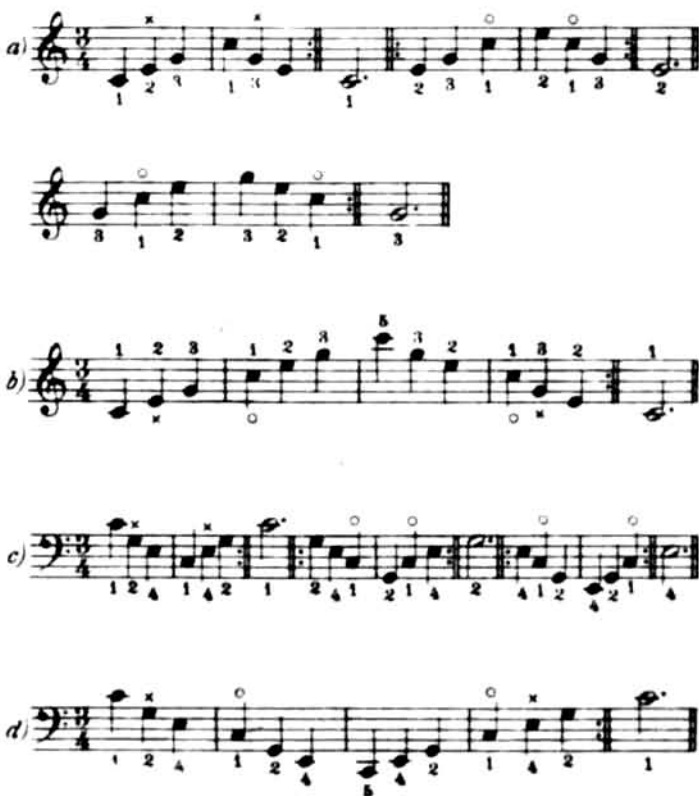
Exercises 36 and 37 may easily be adapted to chords of the seventh, either dominant or diminished.

The following exercises, preparatory to extended arpeggios, are analogous to Nos. 20-26 in the last section.

Exercise 38. C.



Exercise 39. C.



Exercise 40. C.



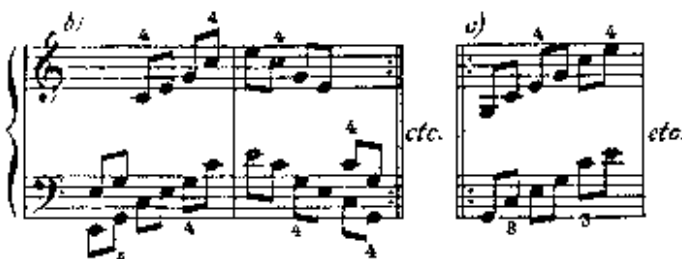
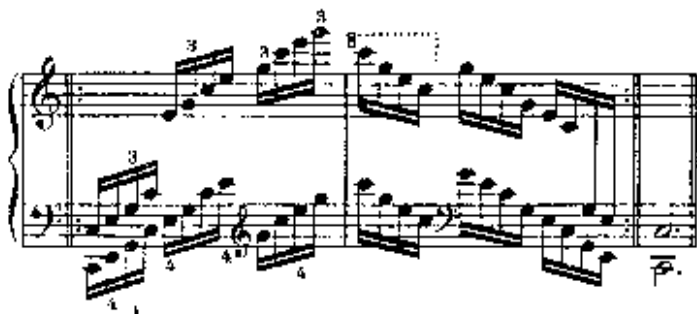
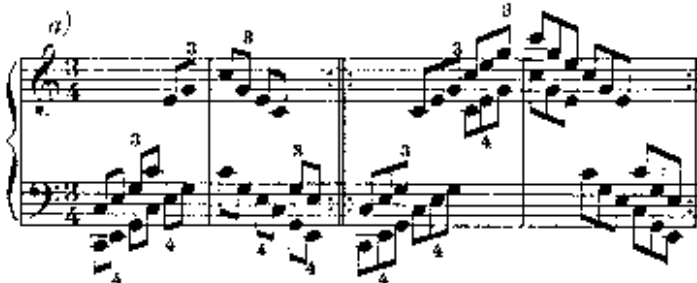
Directions:—

1. Exercise 38 may be omitted by pupils with small hands, but not without a trial, for it is far less difficult than at first appears.
2. If the instructions for scale-preparation be remembered (see Exs. 20-26), it is only requisite to consider the modifications made necessary by the greater stretch in Exs. 38-40. The wrist must be held very far out from the body, and even the elbow must be held further out than usual. Some little twisting of the hand will be almost unavoidable. The fingers cannot be curved quite so much as in the normal hand-position, but the curve should be the best possible.
3. Exercises exactly similar to Nos. 38-40 should be used for the other positions of the chord:—



The arpeggio may now be practised with varying accents and speed, thus:—

Exercise 41.



Exercise 41 is to be transposed into all keys, subject to the following —

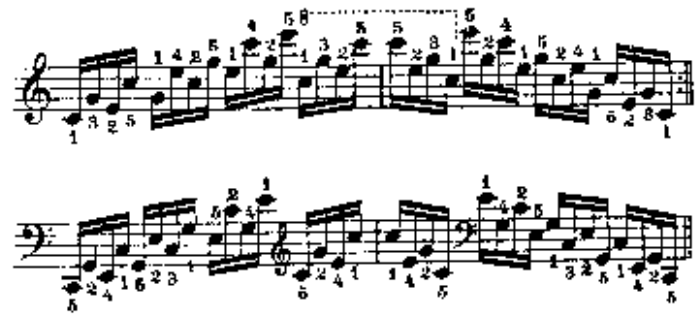
Rule of Fingering.

Always put the thumb on the *first* white note of the chord in the right hand and on the *last* white note of the chord in the left hand (ascending). In the chords of G flat major and E flat minor there is no white note; in these cases keep the fingering of Ex. 41.

In studying arpeggios, proceed as usual, from one hand alone to both together, from slow to fast, from soft to loud. Contrary motion need not be used. *Crescendo* upward and *diminuendo* downward may be freely practised.

The following exercise is so useful, and contains a technical passage so frequently found in piano music, that it cannot be omitted:—

Exercise 42 a).



The above fingering is to be used whenever the notes are *all* white or *all* black, that is, in C, F, G, and F sharp major, and in D, E, A, and E flat minor. Fingerings for the other keys are as follows:—

Right Hand:—



(For D, A, E, and B major and C, F, and G minor.)



(For D^b, A^b, E^b major and B, F[#], C[#], G[#] minor.)



(For B \flat , major and minor, only.)

Left Hand:—



(For D, A, E major, and G, C, F, B \flat minor.)



(For D \flat , A \flat , E \flat , B \flat major and F \sharp , C \sharp , G \sharp minor.)



(For B, major and minor, only.)

SECTION V.

A. THIRDS AND SIXTHS.

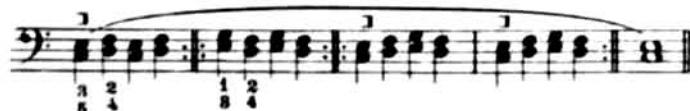
Exercise 43



Directions:—

Practise as in Ex. 3, taking care to play the two notes exactly together.

Exercise 44.



Directions:—

Take care that the two notes are played together and with perfectly equal tone.

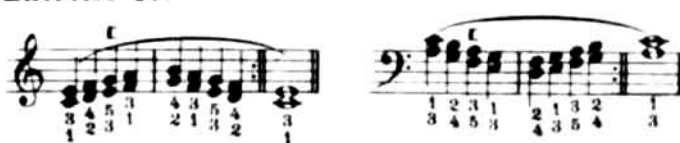
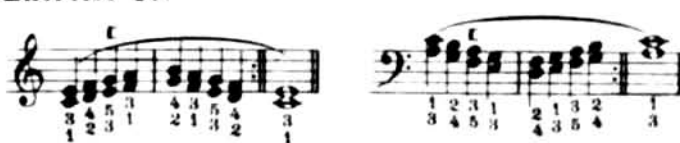
Exercise 45.



Directions:—

1. Hold the wrist slightly in toward the body in the first measure, particularly at the point marked κ . This makes the very difficult legato easier. In the second measure, a perfect legato is impossible unless the fourth finger can be put *under* the third. This is so difficult that it is probably better to put the fourth finger *over* the third, holding the wrist outward and concealing the slight gap in the binding as skilfully as possible.
2. Some of the transpositions of this and the next exercise, and of Nos. 49 and 50, are very far from easy. But they should at least be attempted.

Exercise 46.

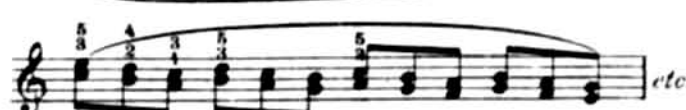


Directions:—

Conceal the breaks in the binding as well as possible. Use the wrist in any way that is helpful, but avoid exaggeration.

Proceed similarly in the following exercises:—

Exercise 47.



Exercise 48.

Exercise 48 consists of two staves. The treble staff has fingerings: 3 4 3 1, 2 3 4 1, 2 3 4 1, 2 3 4 1, 2 3 4 1, 2 3 4 1, 2 3 4 1, 2 3 4 1. The bass staff has fingerings: 1 1 1 1, 2 2 2 2, 3 3 3 3, 4 4 4 4, 5 5 5 5, 4 4 4 4, 3 3 3 3, 2 2 2 2, 1 1 1 1.

Exercise 49.

Exercise 49 consists of two staves. The treble staff has fingerings: 6 5 4 3, 2 1 2 3, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1. The bass staff has fingerings: 1 2 1 4, 2 1 2 3, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1.

Exercise 50.

Exercise 50 consists of two staves. The treble staff has fingerings: 4 5 3 4, 2 1 2 3, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1. The bass staff has fingerings: 1 2 1 1, 2 2 1 2, 3 2 1 2, 4 3 2 1, 3 2 1 2, 4 3 2 1, 3 2 1 2, 4 3 2 1, 3 2 1 2, 4 3 2 1.

Young pupils with small hands may defer the practice of exercises in legato sixths until the stretches become practicable.

Exercise 51.

Exercise 51 consists of two staves. The treble staff has fingerings: 3 4 5 2, 1 2 3 4, 5 4 3 2, 1 2 3 4, 5 4 3 2, 1 2 3 4, 5 4 3 2, 1 2 3 4, 5 4 3 2, etc. The bass staff has fingerings: 2 1 1 2, 3 2 1 2, 4 3 2 1, 3 2 1 2, 4 3 2 1, 3 2 1 2, 4 3 2 1, 3 2 1 2, etc.

In connection with the above, the following "binding" exercises may be studied. They will be found helpful later on in legato octave-playing:—

Exercise 52. C.

Exercise 52 consists of two parts, (a) and (b), on a treble staff. Part (a) has fingerings: 1 1 1 1, 2 2 2 2, 3 3 3 3, 4 4 4 4, 5 5 5 5, 4 4 4 4, 3 3 3 3, 2 2 2 2, 1 1 1 1. Part (b) has fingerings: 1 1 1 1, 2 2 2 2, 3 3 3 3, 4 4 4 4, 5 5 5 5, 4 4 4 4, 3 3 3 3, 2 2 2 2, 1 1 1 1.

Exercise 53 consists of a treble staff with fingerings: 1 1 1 1, 2 2 2 2, 3 3 3 3, 4 4 4 4, 5 5 5 5, 4 4 4 4, 3 3 3 3, 2 2 2 2, 1 1 1 1.

Directions:—

Here the thumb must slide from note to note, which is easy from a black note to a white, fairly easy between two notes both black or white, but difficult when the first note is white and the second black.

Exercise 53.

Exercise 53 consists of three parts, (a), (b), and (c), on a treble staff. Part (a) has fingerings: 4 3 4 3, 2 1 2 3, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1. Part (b) has fingerings: 5 4 5 4, 3 2 3 4, 5 4 3 2, 1 2 3 4, 5 4 3 2, 1 2 3 4, 5 4 3 2, 1 2 3 4, 5 4 3 2. Part (c) has fingerings: 5 4 5 3, 2 1 2 3, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1, 2 3 4 5, 4 3 2 1.

Directions:—

Here the long fingers must be put over the short fingers, and the short under the long (3 over 4, 4 over 5, 3 over 5, 4 under 3, 5 under 4, 5 under 3).

The wrist must be held inward, and maybe moved slightly up and down, — always up for the longer finger.

It is very useful to practise Exercises 47 and 51 in broken thirds and sixths in all keys, as below:—

Exercise 54.

Exercise 54 consists of a treble staff with fingerings: 1 3 2 4, 3 5 1 2, 3 4 1 2, 3 4 1 2, 3 4 1 2, 3 4 1 2, 3 4 1 2, 3 4 1 2, 3 4 1 2, etc.

Exercise 55.

Exercise 55 consists of two parts, (a) and (b), on a treble staff. Part (a) has fingerings: 3 3 5 2, 3 5 2 3, 5 2 3 5, 2 3 5 2, 3 5 2 3, 5 2 3 5, 2 3 5 2, 3 5 2 3, 5 2 3 5, 2 3 5 2, etc. Part (b) has fingerings: 6 4 2 4, 5 2 4 5, 2 4 5 2, 4 5 2 4, 6 4 2 4, 5 2 4 5, 2 4 5 2, 4 5 2 4, 6 4 2 4, 5 2 4 5, 2 4 5 2, 4 5 2 4, 6 4 2 4, 5 2 4 5, 2 4 5 2, 4 5 2 4.

c)  *etc.*

a) $\begin{matrix} 3 & 4 & 1 & 2 & 3 & 4 & 1 & 2 & 3 & 4 \\ 2 & 1 & 4 & 3 & 1 & 4 & 3 & 1 & 4 & 2 & 5 \end{matrix}$ *etc.*

b) $\begin{matrix} 2 & 1 & 4 & 3 & 1 & 4 & 3 & 1 & 4 & 2 & 5 \\ 4 & 2 & 5 & 4 & 2 & 5 & 4 & 2 & 5 & 4 & 2 & 5 \end{matrix}$ *etc.*

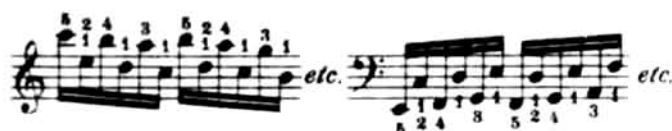
d)  *etc.*


a) $\begin{matrix} 3 & 5 & 2 & 3 & 2 & 3 & 5 & 2 & 3 & 2 & 3 & 5 & 2 \\ 2 & 4 & 1 & 2 & 5 & 1 & 2 & 4 & 1 & 2 & 5 & 1 & 2 & 4 & 1 \end{matrix}$ *etc.*

b) $\begin{matrix} 2 & 1 & 4 & 3 & 1 & 4 & 3 & 1 & 4 & 2 & 5 \\ 4 & 2 & 5 & 4 & 2 & 5 & 4 & 2 & 5 & 4 & 2 & 5 & 4 \end{matrix}$ *etc.*

Exercise 56.

 *etc.*

 *etc.*

 *etc.*

 *etc.*

Exercise 57.

a)  *etc.*

b)  *etc.*

In the next group of exercises, Nos. 59 and 60 must be omitted by young pupils with small hands.

Exercise 58.

 *etc.*

 *etc.*

Exercise 59.

 *etc.*

 *etc.*

Exercise 60.

 *etc.*

 *etc.*

For chromatic work in double notes the following fingerings are an excellent preparation:—

Exercise 61. C.

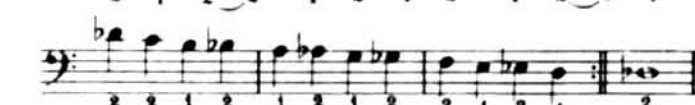
a)  *etc.*

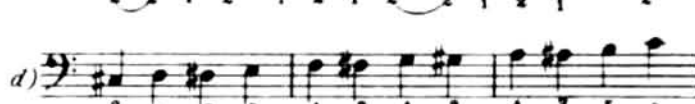
 *etc.*


b)  *etc.*

 *etc.*

c)  *etc.*

 *etc.*

d)  *etc.*

 *etc.*

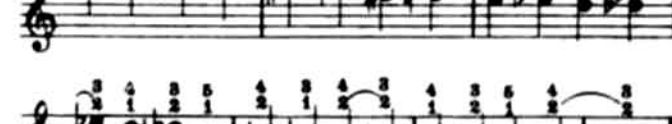
These would be combined, say in chromatic minor thirds, thus:

Exercise 62. C.

R.H.  *etc.*

 *etc.*

 *etc.*

 *etc.*

L. H.

B. OCTAVES.

Octaves occur so often in piano literature that they demand more notice than we have given to other forms of double notes. They should first be practised staccato, as in Ex. 63.

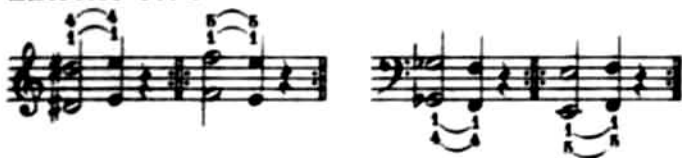
Exercise 63.

Directions:—

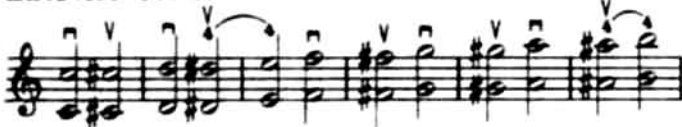
1. Bend the tip of the thumb inward when playing on a white key, so that it cannot strike two notes. The little finger must also be curved, for the same reason. The middle fingers should be held well above the keys, so as not to touch them by accident; they should be at least somewhat curved.
2. The fifth finger may be used throughout No. 63. If preferred, the fourth finger may be used on black notes in c) and d).
3. In alternations of black and white notes, play the white notes *farther up* the keys than usual, so that the hand will not have to shift its position greatly when moving to or from a black note.
4. Take care that the elbow is loose; it is very apt to stiffen in octave playing.

Exercise 64. C.

Exercise 65. C.



Exercise 66. C.



Exercise 67. C.



Directions:—

Exercises 64-67 are to be played legato. After what has been said in regard to Exercises 52 and 53 they should require no further explanation. In No. 65, the slide will be helped by drawing the hand sidewise.

Diatonic scales in octaves may be practised with the up-and-down wrist-movement, up for black and down for white as a general principle. No fixed rule of fingering can be given, but the following examples may serve as illustrations.



These fingerings are for *legato*, of course. In *staccato* use the fifth finger throughout or the fourth on all black notes.

The concluding exercises, Nos. 68 to 71, are of general usefulness. Take the fifth finger with every octave, and practise staccato.

Exercise 68.



Exercise 69.



Exercise 70.



Exercise 71.



* Large hands may sometimes use the third finger in legato octaves.

SECTION VI.

SPECIAL EXERCISES.

For weak knuckles.

Exercise 72.



Directions:—

1. Hold the finger perfectly straight and stiff. Keep the knuckle as high as possible and force it still higher (!) by pressing upward from the finger. Never mind if everything is stiff; but remember that you allow this only temporarily, to work out a gymnastic, not a musical problem.
2. Practise with the fourth finger also, with the others only if necessary, and in no case with the thumb.

For Double-jointed Thumbs.

Exercise 73.



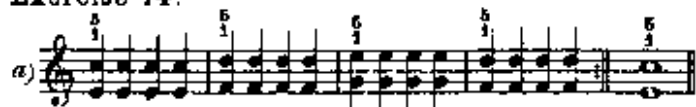
Directions:—

1. Practise as in Ex. 16.
2. Hold both joints of the thumb well away from the hand, bending only the tip inward. But keep the *wrist* well outward from the body. These two points are difficult in combination.

3. If necessary, help at first by holding the thumb in position with the other hand.

Exercise 74 may be practised in octaves as well as in sixths.

Exercise 74.



Directions:—

As in Ex. 73, but practise *portamento*.

It is also very helpful to watch the thumb closely in practising chords.

For Stretch.

Exercise 75.



Fingerings:— $\begin{matrix} 3 & 4 & 5 \\ 2, 3, 4 \end{matrix}$



Easy Fingerings:— $\begin{matrix} 4 & 5 \\ 2, 3 \end{matrix}$

Less Easy:— $\begin{matrix} 3 & 4 & 5 \\ 2, 3, 4 \end{matrix}$



c)  etc.

Easy Fingering: - $\begin{matrix} 5 \\ 2 \end{matrix}$
 Less Easy: - $\begin{matrix} 4 & 5 & 2 \\ 2, 3, 1 \end{matrix}$

 etc.

d)  etc.

Easy Fingerings: - $\begin{matrix} 5 & 4 \\ 1, 1 \end{matrix}$
 Less Easy: - $\begin{matrix} 5 & 3 \\ 2, 1 \end{matrix}$

 etc.

e)  etc.

Fingerings: - $\begin{matrix} 5 & 4 \\ 1, 1 \end{matrix}$

 etc.

Directions:—

1. Swing the whole arm freely, so that the elbow is high and far from the body at the sign /, low and near the body at \. This is for the right hand; reverse the signs for the left hand. Of course the hand cannot remain horizontal, but will slope liberally in the direction of the lines / and \ alternately.
2. Choose from the various fingerings to suit the individual hand, not avoiding difficulty, but guarding against too great a strain.
3. The stretch at e) may be increased by one note for large hands.

Stretching power may also be developed by holding the hand in difficult positions until rather tired. A series of positions from normal to very extended, say:—



may readily be devised to suit the particular hand.

In all stretching exercises, beware of over-straining the hand, for some little stiffness is inevitable at best, and the muscles may easily be injured by too much work of this kind.

For Variety of Tone.

Exercise 76.

 pp

 ff pp

Directions:—

1. The number of notes played is immaterial, but the more the better. Make the crescendo and diminuendo as gradual as possible. Take care not to stiffen at the ff.
2. Use all other fingers in turn, as in Ex. 3.

This excellent exercise gives great power of control over the tone. It is not easy, and requires patience and a considerable exertion of will.

Exercise 77.

a)  p < f > p f > p < f

b)  p f p

c)  f p f

Exercise 78.

 p f

For Velocity.

Exercise 79.

Each bar at least four times.

Similar exercises should be used to acquire velocity in scales and arpeggios (see Note 23).

For Polyphonic Playing.

The following exercises will be found invaluable as a preparation for polyphonic playing in general and the Fugues and Three-part Inventions of Bach in particular.

Exercise 80.

Exercise 81.

Exercise 82.

Two staves of eighth-note exercises with fingerings: 2 1 2 1, 3 4 3 4, etc. Below them are two more staves with fingerings: 1 2 1 2, 3 4 3 4, etc. and 5 4 5 4, 4 5 4 5, etc.

Directions:—

1. Change the fingers silently after playing, as indicated. This can be done in a much quicker tempo than one would at first believe.

2. Ex. 80 is to be played with other fingers also: 32, 43, and 54.

Sliding fingerings (as shown for the thumb in Ex. 52) and the putting of long fingers over short and short under long (Ex. 53) are constantly needed in polyphonic playing. Any finger may be used in sliding from a black key to a white.

For Melody.

Many beginners have great difficulty in "bringing out" a melody when notes of the accompaniment are to be played in the same hand. I have found the following exercises extraordinarily useful.

Exercise 83.

Four staves of music. Staff a) has fingerings 3, 4, 5 over 1, 2. Staff b) has fingerings 4, 5 over 1, 2. Staff c) has fingerings 4, 5 over 1, 2. Staff d) has fingerings 4, 5 over 1, 2.

Directions:—

1. Play the large notes as strong as possible, the small notes *very* soft.

2. At first it will be a help to *lift* the finger about to play a strong note and to let the other finger rest on the key. Afterwards, however, try to produce the difference of tone simply by throwing weight on the strong note.

Exercise 84.

Three staves of music. Staff a) has fingerings 5, 2 over 1. Staff b) has fingerings 5, 2 over 1. Staff c) has fingerings 5, 2 over 1.

Exercise 85.

One staff of music.

(With different fingerings, and in sixths also, like Ex. 83.)

Exercise 86.

One staff of music.

(Accent the other notes in turn, as in Ex. 84.)

Exercise 87, remarkable for its difficulty and ingenuity, is attributed to Carl Tausig:—

Exercise 87.

One staff of music.

For Pedalling.

Exercise 88.

One staff of music with "Count." and "Pedal." markings.

b) *Count.*

Pedal.

Pedal.

c)

Pedal.

Exercise 89.

a)

Pedal.

(In $\frac{3}{4}$ time also, like No. 88b.)

Pedal.

b)

Pedal.

Remarks:—

1. Simple as these exercises are, they contain the whole principle of "syncopated" pedalling. They should be followed up by a systematic application of the principle to some simple piece or part of a piece.
2. I have adopted the excellent system of notation proposed by Schmidt* for marking the use of the pedal. It is the only really exact notation.

For Polyrhythmic Passages.

Exercise 90.

Directions:—

Avoid playing:—

etc.

Exercise 91.

a)

Count 1 2 and 3 etc.

b)

many times
Count

c)

Count

* „Das Pedal des Pianoforte“

Directions:—

Count throughout. Do not let the ugly sound of No. 91 c) and f) frighten you.

Exercise 92.

Exercise 92 can be applied to many passages like the well-known one from Beethoven's Rondo in C, which in the original is:—

On the principle of Ex. 92, this would be shown as follows:—

The 'Least Common Multiple' method of combating polyrhythmic troubles is very mechanical, and should be used as a last resort only. But it is very certain. Taking the example already quoted, the manner of practice would be:—

For Trills.

Exercise 93.

Directions:—

1. Use all fingerings in turn, first:—

2. Let the arm shake slightly as in the Tremolo action (see Exercise 17).

Some of the best fingerings for trills are subjoined:—

a)

b)

c)

d)

e)

f)

g)

h)

For trills in thirds, the best fingering is usually $\frac{1}{2} \frac{2}{4}$, but the following are often useful:—

a)

b)

For Repetition

Exercise 94.

a)

b)

c)

Directions:—

1. Draw the hand *directly outward* from the keyboard at the first note of each group.
2. Use the finger-staccato; but in these exercises the fingers may be allowed to slide off the outer edge of the keys after playing, instead of being raised in the ordinary manner. They will thus curl up, so to speak, under the palm of the hand.

Exercise 95.

a)

b)

Directions:—

- Begin with the wrist low, and raise it a little, rather sharply, at the last note.

Exercise 96.

a)

b)

Exercise 96 should explain itself.

Observe that repeated chords are played in the same manner as repeated octaves.

NOTES TO THE TEACHER.

SECTION I.

Note 1. *Hand-position.*

Common faults of hand-position are:—

1. Straight fingers.
2. Bad position of the thumbs, sometimes due to double-jointedness.
3. Weakness of the knuckles.
4. Want of firmness in the nail-joint of the fingers.
5. Bad position of the wrist, often due to the elbow being held too near the body.
6. Hand sloping down toward the little finger.
7. Stiffness of wrist and arm.

The curving of the fingers is very important. It should be constantly insisted on in five-finger exercises, scales, and studies, even at the risk of nagging.

Special exercises for the remedy of double-jointed thumbs and weak knuckles will be found in the last section.

The nail-joint should always be held in vertical position. It must be quite firm, never yielding or "breaking" inward. This is another point requiring great insistence on the teacher's part.

The outward position of the wrist throws the weight of the hand behind the weak fingers, thus supporting them. It is therefore of distinct use even in five-finger exercises, while in scales and arpeggios it is absolutely indispensable.

Note 2. *Relaxation.*

Nearly all pupils are stiff at first. Many suffer merely from the mechanical difficulty of new and unfamiliar muscle-actions. Some, however, have not even a proper *conception* of relaxation, and cannot tell whether a joint is stiff or loose at a given moment. The teacher should in such cases be tireless in demonstration. It is easy to make stiffness sensible to the pupil, for only if a joint is relaxed can it be *moved* easily. The wrist, for instance, is beyond doubt rigid if it does not yield readily to a slow push upward or downward.

Relaxation in itself is not difficult to acquire. The beginner's trouble lies in the necessary combination of loose wrist and firm finger (the fingertip supporting the weight of the arm). When there is sufficient weight in the touch and sufficient looseness of wrist and arm, the wrist and elbow may be moved in any direction *without causing the fingers to leave the keys*. This is a most useful test

of good touch, especially as the pupil (practising with one hand at a time) can himself apply it in home work.

There are, however, many other methods of showing a pupil the difference between supple and rigid conditions of the joints. Every teacher has his own favorite devices. Very often the idea of relaxation must be presented in various garbs or forms until one particular method of presentation happily reaches the pupil's apprehension. Some teachers, for instance, achieve success by making the student consciously stiffen the whole arm for some time and then, in relaxing, feel by sharp contrast the blessedness of suppleness. The Virgil methods may also be cited as meritorious.

In short, nothing should be left untried to cure stiffness, for it is a deadly foe. It cramps all motion, quickly causes fatigue, and ruins beauty of tone.

Nor should the teacher be content with looseness of *wrist* alone. The entire arm,—wrist, elbow and shoulder, must be perfectly free.

Note 3. *Finger-action.*

Common faults are:—

1. Yielding or "breaking" of the nail-joint.
2. Straightening the fingers when lifted.
3. Curling up the fingers under the palm of the hand when lifted.
4. Dragging the unoccupied fingers on the keys.
5. Jerking the wrist or arm at every note.

The teacher must carefully guard against all these errors. Correct finger-action is a perfectly simple lift and drop of the knuckle-joint; all other movements of the fingers are unnecessary and disturbing.

It should especially be seen that the vertical position of the nail-joint is maintained when the finger is raised.

Special attention should be paid to the weak fingers.

Note 4. *Two Legato Touches.*

Exercises 3 and 4, and almost all legato exercises, may be practised with two different kinds of legato:

- A. With lifted fingers.
- B. With close touch. In this, the fingers are never raised enough to leave the keys, but always remain in actual contact with them.

Raised fingers give clear articulation in rapid playing. Most teachers will probably prefer to teach this touch first, "dragging" of the fingers being so common among beginners.

The close touch is best suited to melodic playing, where the most perfect legato possible is desired. No other touch ever gives such sensibility to the finger, such a feeling of really *molding* a melody as one plays it. While the teacher, therefore, may insist on raised fingers in technical practise, he should see that the close touch is used, even in the first pieces studied, for all *cantabile* passages.

The advocates of the close touch claim for it:—

1. That it produces the purest "singing" tone possible on the piano, because the sound of the finger falling on the key is eliminated.
2. That the placing of the finger on the key in preparation of the note about to be played is the best means of acquiring unflinching accuracy.

These points can scarcely be disputed. On the other hand, it is justly urged that "smudginess" often results from over-indulgence in the close touch. Why, then, should we not recognise two distinct forms of Legato, one suited to melodic playing, in which the greatest intimacy of binding is essential, and another preferable for rapid passage-work, where clearness is most needed?

I may remark that in my experience it is easy to acquire the close touch at a late period of study, but difficult to train fingers to lift well unless one begins early.

The dangers of the close touch are best avoided by taking care while practising scales and arpeggios to lift the fingers from the keys *after* playing.

Cases of *excessive* raising of the fingers are somewhat rare. The second finger is usually the chief offender. The teacher may always safely discourage a high lift of the *thumb* (see Note 12 A).

The actual performance of Exs. 3 and 4 will be as follows:—

Ex. 3.



Ex. 4.



This way of writing, however, is obviously very complicated and would puzzle pupils needlessly. Ex. 3 A and B must of course be performed similarly.

Note 5. *Tone-production.*

Beauty of tone, especially in legato-playing, is the great aesthetic difficulty of the piano. All pupils should therefore be made to cultivate it from the beginning.

It may easily be shown that *striking* the keys produces hard, unsympathetic tone, and that *pressure* of wrist or arm produces heavy tone. Finger-pressure produces good tone, but not in sufficient volume for all purposes, partly because the strength of the different fingers varies so greatly.

The author strongly insists on the necessity of using *the weight of the arm* in the production of singing tone. This weight must be concentrated on the finger-tips, but entirely without effort—exactly as the weight of the body rests on the feet in standing or walking. The following points are deserving of the teacher's attention:—

1. The use of weight is the most economical means of tone-production, for no effort whatever is required.
2. The weight of the arm can be used in any quantity desired to gain varied volume of tone. In light accompaniments and very delicate passages it can easily be held back altogether.
3. If one depends on weight for tone, the differences of strength among the fingers need not trouble the player.
4. Weight resting on the keys gives the nearest possible approach to the flow of uninterrupted sound produced by the violinist's bow or the singer's breath. It is, moreover, easily distributed in any desired degree to any part of the hand (see Ex. 83-87).

With the most correct method, however, no pupil will ever produce a really beautiful singing tone unless he *listens* to every note. The ear is the sole judge between good and bad in tone, and its critical power must be carefully trained.

Note 6. *Exercise 8, etc.*

A true legato is a *continuity of tone*, not a *succession of tones*. Merely "binding" notes together often results in a series of soft blows or impacts instead of an unbroken stream of sound. The legato of a good singer or violinist may be taken as a standard for the pianist's effort.

It is, indeed, *theoretically* impossible to obtain an absolute legato (except in diminuendo) on the piano. But piano-playing is an art, not a science; a legato appeals to the ear, not to the mathematical sense; hence good players succeed in spite of theory.

The legato is the most difficult and the most beautiful of all touches. Accordingly, it needs and deserves constant study.

In playing slow melodies the tones may be allowed to overlap very slightly—never enough to cause "blurring." The fingers need not be curved quite as much as usual.

Note 7.

The elements of Technique—hand-position, finger-action, and relaxation—are so far-reaching that their importance can hardly be exaggerated. They should be revised periodically to guard against relapses, and it should be seen that they are put to practical application in studies and pieces. The first studies and pieces given should contain nothing more involved than five-finger passages and simple chords. Scale-work should come next, then arpeggio figures and mixed passages, just as in the Technique itself. Easy studies well played are preferable to difficult ones in which the pupil violates all principles of good action.

SECTION II.

Note 8.

Helpful as are the movements treated of in this section, it is necessary to warn against exaggeration, lest they supplant instead of merely assisting good finger-action. Observe the metronome marking in Ex. 11, and note that the wrist can be moved only *once* for every *four* notes in rapid tempo.

Note 9.

In transposing exercises into other keys, the pupil should be allowed and if necessary instructed always to strike white keys on their *broad* part, not on the narrow part between the black keys. This involves frequent movement of the hand nearer to or farther from the keyboard, but fortunately there is no difficulty whatever in the motion. In chords and arpeggio figures, of course, one must often play white notes on the narrow part.

Note 10. Exercise 17.

If the explanation of Tremolo-action is not easily understood, make the pupil stretch out his arm with the palm of the hand upward, then reverse the position, turning the palm down. By repeating this process rapidly a few times he will soon gain the right idea.

Note 11.

The special exercises for Variety of Tone and Velocity may be given to pupils before they attack scales. Others of the special exercises may be used at any time: those for pedalling, polyrhythmic passages, bringing out melodies, and polyphonic playing, will doubtless be suggested by difficulties arising in the pieces studied.

SECTION III.

Note 12. Scales.

- A. The close touch may very profitably be used in the preparatory exercises. The thumb should *never* be raised from the keys in scales.
- B. In ascending, the right hand may slope slightly downward to the little finger; in descending it should be tilted the other way. The slopes are the reverse, of course, for the left hand. Do not let the pupil exaggerate this point: often there is no necessity to mention it at all.
- C. The hand may perhaps be arched a little more than usual, so that the thumb may pass under more freely.
- D. If the pupil has trouble in subduing the thumb sufficiently, the following method of practice will give quick results:—



- E. A very slight up-and-down movement of the wrist is permissible and even advisable in scales. Whenever the thumb plays the wrist should be low.

Note 13. System of fingering Scales.

Without wishing to force the method given in the text on those who may prefer other systems, I strongly advise against teaching scale-fingerings by the thumb-positions, of which there must be *two* in every octave as against *one* of the fourth finger.

Note 14. Alternative Scale-fingerings.

Many writers give the following fingerings of certain melodic minor Scales:—

F sharp minor.

C sharp minor.

G sharp minor.

B flat minor.

The modern fingering of these scales is less regular but easier.

Many of the scales might depart from the accepted fingerings to good advantage. As a matter of interest, and without recommending innovations, I subjoin a few examples of possible left-hand fingerings:—

F major.

A major.

F minor.

(The fourth finger might fall on F# in the scale of D also, perhaps even in G.)

(Similarly in C minor, G minor, D minor.)

Many a beginner would be gratified by these changes!

Note 15. Scale-practise.

Do not let the pupil practise scales always in the same order. They should be played sometimes in the order of fifths (C, G, D, etc.), sometimes in chromatic succession, and sometimes alternating major with relative or tonic minor.

Is it necessary to worry pupils with scales in sixths and tenths? I, for one, think not. The conscientious teacher who differs from me must change the fingering of certain scales when beginning on the third degree: this is very little trouble.

In fact practise the scales should be played with lighter tone, in order to avoid stiffness.

SECTION IV.

Note 16. Exercises 29-34.

Of course the marking:—

really implies:—

Exercises 29-34 may also be practised without re-

peating the chords, thus:—

in order to gain facility in moving from one position to another.

Note 17. Exercises 31 and 32.

The teacher must see to it that the pupil does not shirk the fourth finger in chord-positions, whether full or broken. Nevertheless, the third finger may be substituted for the fourth in the following chords:—



and perhaps also in these:—



Note 18. Exercise 34.

The following fingerings will help small hands:—



Note 19.

The teacher must bear in mind that the curving of the fingers to the degree required in scale-playing is unnecessary and often impossible in extended chord-positions and arpeggios. The chief advantage of curved fingers is clearness of articulation, and in scales this is vital; but in arpeggios the effect is actually improved if the tones run together. Hence one uses pedal in arpeggios and avoids it in scales.

It is always well, however, to insist on the best curve possible.

Note 20. Arpeggio Fingerings.

The rule given in the text holds good for arpeggios formed from dominant and diminished sevenths.

As the first position of arpeggios formed from triads is the most difficult in many keys, it is wise to substitute (in free playing) the fingering of another position when there is room for choice.

SECTION V.

Note 21. Exercises 45 et seq.

The effective disguise of the slight breaks in *legato* necessary in most double-note passages is an important point. A light use of the wrist in any direction helpful at the moment (always avoiding undue exaggeration) is the great requisite.

Scales in thirds and sixths are excluded from this section, not being elementary technique. Ambitious pu-

pils may be referred to Moszkowski's work on Double Notes, and, for octaves, to Kullak's well-known treatise. Practical fingerings of scales in thirds and sixths are to be found also in Zwintscher's "Technical Exercises". Busoni has made interesting suggestions as to double-notes and octaves in his scholarly edition of Bach's "Well-Tempered Clavichord".

SECTION VI.

Note 22. Stretch.

The idea of swinging the arm in practising stretches is due, I believe, to Mr. Virgil.

The teacher should be very cautious in attempting to enlarge a pupil's grasp. Much harm may be done by injudicious forcing. In the case of children, it is almost always best to wait for the natural growth of the hand.

Note 23. Velocity Exercises.

Miss von Unschuld, in her exposition of Leschetizky's principles of teaching, very reasonably advises the exclusion of the thumb for final notes in exercises for Scale-velocity. The series would thus be:—



Similarly, of course, in arpeggios.

Note 24. Pedalling.

Observe that in Ex. 88 the pedalling connects tones between which there would otherwise be gaps, while in Ex. 89 it prevents "blurring" of dissonances. Only "syn-copated" pedalling fulfils both these conditions.

Note 25. Polyrhythms.

Do not despise Ex 90: it is often a hard nut to crack.

When pupils have once learned to play three notes against two, other polyrhythms usually lose most of their terror. Never attempt to use the "Least-Common-Multiple" method for three notes against four: the remedy is worse than the disease. The ear is here the only guide, though it is useful to practise each hand separately in the full tempo as a preparation.

HARMONIC MINOR SCALES.

First exercise: Treble clef, G major key signature. The scale is G-A-B-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

First exercise: Treble clef, F major key signature. The scale is F-G-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Second exercise: Treble clef, G major key signature. The scale is G-A-B-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Second exercise: Treble clef, F major key signature. The scale is F-G-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Third exercise: Treble clef, G major key signature. The scale is G-A-B-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Third exercise: Treble clef, F major key signature. The scale is F-G-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Fourth exercise: Treble clef, G major key signature. The scale is G-A-B-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Fourth exercise: Treble clef, F major key signature. The scale is F-G-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Fifth exercise: Treble clef, G major key signature. The scale is G-A-B-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Fifth exercise: Treble clef, F major key signature. The scale is F-G-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Sixth exercise: Treble clef, G major key signature. The scale is G-A-B-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

Sixth exercise: Treble clef, F major key signature. The scale is F-G-A-G-F-E-D-C-B-A-G. The bass line consists of a simple harmonic accompaniment. Fingerings are indicated by numbers 1-5 above or below notes.

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