


TOUCH AND TECHNIC:

— FOR —

Artistic * Piano * Playing.



BY MEANS OF A NEW COMBINATION OF EXERCISE-FORMS AND METHOD OF PRACTICE,
 CONDUCTING RAPIDLY TO EQUALITY OF FINGER POWER, FACILITY
 AND EXPRESSIVE QUALITY OF TONE.

— BY —

DR. WILLIAM MASON.

† OP. 44. †

Vol. I.—TWO-FINGER EXERCISES (School of Touch),	.	.	.	.	.	\$1.00
Vol. II.—COMPLETE SCHOOL OF SCALES (School for Brilliant Passages),	.	.	.	.	.	1.00
Vol. III.—COMPLETE SCHOOL OF ARPEGGIOS (Passage School),	1.00
Vol. IV.—SCHOOL OF OCTAVES AND BRAVOURA,	1.00

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NOTE.—Although published in separate volumes, the four kinds of exercises contained therein are intended to enter into the daily practice concurrently, through the entire course of study, from the first grade upwards.

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AUTHOR'S PREFACE.

The four volumes of the present series undertake to present in orderly sequence and arrangement the entire system of pianoforte technics, as evolved in the teaching experience of the author during his professional career of more than thirty-five years. The central feature of the system is the combination of elements in the daily practice for securing the highest possible degree of flexibility, responsiveness, and versatility in the fingers, and, at the same time, educating the ear to all shades of tone-color, and securing a reposeful and exact rhythm and clear accentuation in all degrees of speed. These, I believe, are the technical qualities through which musical interpretation upon the pianoforte comes to expression.

This diversity of qualities is sought in all parts of the practice, but the elements of tone-color are mainly prepared in the Two-Finger Exercises. Meter and Rhythm are elucidated in the metrical treatment of the Scales and Arpeggios, where all the sensational and ornamental qualities of pianoforte playing are constantly held in view. The school of Octaves and Bra-voura puts the finishing touches to the playing upon its sensational side.

Exercises more or less completely illustrating these principles were first published in 1867, when their practical value had already for several years been demonstrated. The Two-Finger Exercise was more fully elaborated in my Technics, 1876, and has been still more carefully explained in the first volume of Touch and Technic, 1890. The other types of exercise peculiar to this system are the accentual treatment, the harmonic changes of the diminished seventh, the principle of velocity, the principle of octave-playing, and the new apparatus of Graded Rhythms. The latter, which has been used in my teaching for more than twenty years, is found to secure in the same exercise three extremely important advantages, which are not so well united in any other exercise, or short combination of exercises, known to the writer. In the same

effort it secures an exact observance of meter and rhythm, in a combination embracing four grades of speed, geometrically developed. Out of full-pulse, rhythms grow half-pulse, quarter-pulse and eighth-pulse rhythms, all carried through at the same rate by the metronome. In connection with this, there is the transition from the full, round, reposeful, clinging legato, to the lightest and most rapid play of the fingers. In the present work, especially in volumes II and III, it has received a fuller development, and is placed in the very fore-front of the system—a position to which it is well entitled, by reason of its productive value as an educational apparatus.

All of these elements were original with this system and, after some ten years' use in private teaching, which served to test and establish their efficiency, were first published in 1867. More recently they have been copied, although without regard to method, into various instruction books, technics, and collections of exercises, thus affording additional testimony to their usefulness.

It is, perhaps, unnecessary to say, further, that great pains has been taken in the present volumes to place the system in its entirety and in its individual elements before the reader in such a way as to reveal to him (1) its fundamental principles, (2) the exercises applying them, and (3) the leading features in their relative importance, as clearly and easily as possible. In accomplishing this part of my task, I have received important assistance from my friend, Mr. W. S. B. Mathews, who for twenty-one years has been an appreciative and diligent supporter of the system, and who was once before associated with me in presenting it to the public. His ready assistance has enabled me to complete this work at a much earlier date than I should otherwise have been able to do, owing to a not very robust state of health and a stress of professional occupation.

William Mason.

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ARPEGGIOS AND BROKEN CHORDS, METRICALLY AND RHYTHMICALLY TREATED.

A PRACTICAL INTRODUCTION TO RAPID AND BRILLIANT PLAYING.

BY
WILLIAM MASON.

OPUS 44, No. 3.

GENERAL INTRODUCTION.

SECTION I. The name "TOUCH AND TECHNIC" has been selected as an appropriate designation for a system of training which aims at developing, synthetically as well as analytically, all the various forms of finger-facility commonly embraced under the name of "technic;" and in connection therewith the education of a *deep, full, light, expressive touch*, without which no musical playing is possible.

The component elements of first-class piano-playing are the following:—

TUNE, (as regards the pianoforte, accuracy of execution.)

TIME, (attention to meter and rhythm.)

QUALITY OF TONE, (by different gradations and methods of touch.)

EXPRESSION { (through quality of tone as produced
or by different kinds of touch, and by
PHRASING, { inflectional emphasis and accent.)

FACILITY OF EXECUTION, { (in passages of every
and at the same time { variety of speed.)
REPOSE.

The exercises in this system contain all these elements, or the germs of them, and are intended to bring them into action and use from the very outset. Inasmuch as the qualities enumerated above are all factors in the composite unit, *good playing*, no one of them can be neglected without impairing the general result; and the habit of attending equally to each and every one of them simultaneously must be acquired at the very beginning. This is not so difficult as has generally been supposed, nor is it in violation of the principle of "*One thing at a time.*" There is but one "thing," which is *the interpretation* (or expression) *of the musical idea*; but this one thing properly considered requires equal attention to all the factors enumerated. No one of them should be lost sight of while giving

special attention to the others, because if this happens it will naturally and inevitably be found later that habits of omission have been acquired, which are difficult, if not impossible, to eradicate. They are the natural result of the incomplete and defective musical concept unconsciously established in the student's mind, through the one-sided and misleading method of practice too often permitted. Habits of this kind are fully as difficult to overcome as those of commission. It is true that exercises are generally designed for some specific purpose; but the student may lay it down as an invariable rule that, while any one special feature of playing is under study, all the other qualities of good playing should concurrently and constantly be observed in the practice.

It will be noticed by the attentive reader that the foregoing are exactly opposed to the direction often given young students, "First get the notes right, then the expression." Experience shows, beyond controversy, that better results follow the study if the musical effect is borne in mind from the very beginning.

BIRDSEYE VIEW OF TOUCH AND TECHNIC.

SEC. 2. This system of "Touch and Technic" consists of four different kinds of passage (or exercise), and it is intended that the pupil practice something of each class every day, excepting when for good reason one element or another may be temporarily intermitted, namely:—

1. TWO-FINGER EXERCISE. ("Touch and Technic," Vol. I.)
2. METRICAL SCALES. ("Touch and Technic," Vol. II.)
3. METRICAL ARPEGGIOS. ("Touch and Technic," Vol. III.)
4. SCHOOL OF OCTAVES AND BRAVOURA. ("Touch and Technic," Vol. IV.)

The daily practice is intended to embrace each of these different kinds of exercise in turn, for a few minutes only, but no one to excess. This system of technical practice imposes but slight burdens upon the pupil, and never over-exercises one set of muscles or faculties; and at the same time, through the system of metrical elaboration, absorbs and concentrates the attention to a degree otherwise unattainable in the practice of exercises. The hand is left elastic and in a high condition of artistic responsiveness, the value of which is seen positively in the superior musical quality of the playing of those trained under it; and negatively in the fact that not a single case of pianist's "cramp," so far as known, has been experienced by students practising in the diversified manner here directed.

SEC. 3. Volume 1. Inasmuch as a musical and discriminative touch intelligently applied is the most important part of a player's outfit, the first volume of "Touch and Technic" is exclusively devoted to this part of the training. That volume having now been some time before the public, and many thousands of copies circulated, it is not necessary here to occupy much space with its especial features. Suffice it to say that its object is to thoroughly train the hands and fingers in all those varied manners of touching the keys, without which the different tone-colors and musical effects required in the compositions of the greatest tone-poets cannot be given adequate expression. With this end in view it aims to form the indispensable practical complement to the distinctly musical material through the study of which the musical faculties themselves are rendered *sensitive* and deepened, the tone-perceptions more delicate and discriminating, and musical feeling more refined and spiritual.

SEC. 4. Volumes II, III and IV. The present and companion volumes cover different ground, which must now be considered. Pianoforte passages consist either of *Scales, Arpeggios, Chords* or *Octaves*. These in the aggregate comprise the totality of brilliant pianoforte technic. They are not generally played in the thoughtful and impressive manner appropriate to melody, but with speed, brilliancy, and at times with almost inconceivable lightness and delicacy. The effective execution of this part of the playing has long been regarded as the distinguishing mark of a well-trained pianist, and instruction books and manuals of technics have furnished a great number of typical forms intended for training in this direction. All arbitrary combinations of tones devised for practice have, however, the great disadvantage that they are vacant of meaning, nor is it possible by simply repeating them over and over to build up out of them significant unities. The habitual reiteration of them in daily practice engenders mental habits of the most careless description, and owing to their tiresome character and arbitrary construction, the fingers derive from practising them but limited aid toward overcoming the difficulties offered by well-made bravoura pieces.

SEC. 5. In the effort to surmount these unfavorable elements of practice, in the case of certain pupils more than usually inattentive, yet with an encouraging amount of latent musical endowment, the Author, about thirty years ago, had recourse to the metrical treatment of the radical elements themselves of brilliant passages, namely, the *Scales* and *Arpeggios*. The immediate results were so gratifying, that by degrees further applications of the same principle were made in the instruction of some hundreds of pupils, a large number of whom are now concert players, high-class teachers, and accomplished musical amateurs. The system has made encouraging progress through the somewhat uncertain medium of oral teaching, and at several times its principles and methods have been given to the public in more or less completeness. But with the purpose of securing yet greater simplicity and clearness in the explanations, and of including the latest conclusions relating to it, the present volumes are offered to the consideration of teachers, and students.

SEC. 6. The fundamental principle of this system, then, is that scale, arpeggio and chord passages comprise the totality of brilliant technic. They employ comprehensively and unitedly the muscles of the fingers, wrist and arm. And the main and characteristic feature of the method of practice is, that every day the hand receives its "daily bread" in each one of these different faculties; no one being neglected, but all receiving attention, if but for a few minutes,—the entire practice occupying much less time than has generally been supposed indispensable where a high degree of technical attainment is intended.

A NEW METHOD OF DEVELOPING SPEED.

SEC. 7. The Author feels that he would be unjust to his readers, and to the experience of which the volumes of this series are the fruit, were he to fail to call attention in advance, and in a formal manner, to one of the most vital elements of the whole system of practice here exhibited, and at the same time the most novel. Reference is made to the new method of developing speed. About thirty years ago he discovered that speed could be arrived at by average pupils much more quickly by intermingling fast and slow practice in certain proportions, than by confining the attention to either one, to the exclusion of the other; and that rapid playing indeed was necessary in order to establish proper hand positions, and correct muscular action. He also found that speed would come sooner by making a sudden transition from slow practice to a very fast playing of a passage for a few times, and then recurring to the slow motions, upon which the sure order and method of the playing depended. More than twenty years ago he devised his Velocity forms, which were first printed in his *Technics*, in 1876. These had in them the germ of the entire principle, but the application was incomplete; and while many pupils experienced great benefit from this method of prac-

tice, there were others whom it still failed to reach. Some time before the publication of the *Technics* he had been in the habit of using in his own teaching a graded study of rhythm like that in No. 275 of the *Technics*, and the exercise was correctly printed in that work, but owing to its location, amid a variety of other forms of exercise with which it had no very apparent connection, its vital significance, as the central thought of the entire method of practice, was not appreciated by students, and its use has accordingly and very naturally been limited.

SEC. 8. In the present work, this principle meets the student at the very outset of his studies in every form to which metrical treatment is applied. After a very few preliminary performances of the passage, whether arpeggio or scale, he is immediately required to play it in a metrical gradation of rhythm, proceeding from whole-pulse rhythms to half-pulse, quarter-pulse, and eighth-pulse lengths, at a rate of speed already corresponding in the first grade to a strong allegro. Contrary to the impression of teachers who have not tried it, young pupils arrive at the first grades of speed by this system with very little trouble, and it is only a short time before they are able to make a successful approximation to the great rapidity of the last form, Grade IV.

The principle upon which the exercise rests is that of first making the player conscious of the musical figure out of which the exercise is composed, and of the muscular motions needed in playing it. This happens in Grade I. In Grade II, there is still time for deliberation as to figure and finger; in grade III, a degree of speed is at once taken which under the old system is not reached for a much longer time of preliminary study. And in Grade IV, we come immediately to a speed which is great even for good players. This in the case of beginners may not be reached for a little time, but if the effort be persisted in, and the incontestible testimony of the metronome be continually appealed to, in order that there may not be a weakening of the rhythmic motion for the accommodation of slow fingers, the pupil will in almost an incredibly short time seize the knack of the hand and finger motions upon which fast playing depends.

SEC. 9. It will be observed that this method of velocity differs in two important respects from all other velocity practices offered students. In the first place, the musical form is very short, and is a real unity of itself, such as appeals to every latent musical intelligence. In this respect it differs from all arbitrary formulas used as motives. Second, it admits and invites development into larger and larger unities, which as soon as formed are just as apprehensible and comprehensible (even by young pupils) as the short forms out of which they have been composed. In this respect again, it differs from all long passages developed out of arbitrary musical figures. Hence at this point the student is already in a very favorable position with reference to the high degree of speed required, since

the mental strain of conceiving the entire passage as a unity does not exist, the passage, when composed of arpeggios or scales being felt as a unity by the intuitive exercise of musical intelligence of a grade requiring little or no preliminary training.

SEC. 10. Still more important, third, are the conditions under which speed is demanded in this exercise. Instead of leaving the student to "gradually increase the speed, as he gains in ease," he is made here to *exactly double the speed* at the very first step. There is no question of waiting, he is to do it at once—intuitively. The metronome is ticking away, leaving no possible doubt as to what this exact doubling may mean. Then he goes on again to double this in turn, the metronome still going on with its relentless admonition. And, finally, he doubles once more, the metronome being still the witness.

The Author has found by experience, that in the old way of expecting the speed to be gradually increased, the majority of pupils continued with very slight increase of movement beyond the moderate dog-trot which they first happened to hit as a fast form; but in the new method the mathematical relation of the fast way to the slow way immediately preceding affords the student an enormously efficient incitation, so that as soon as the sense of time becomes quickened to the true significance of the fast form, the speed is very soon attained, even in the high grades.

SEC. 11. The principle of the fast forms, Grades III and IV, here is in no way different from that of the Velocity exercises which were so important a feature in the *Technics*, and several of his previous works. Only the *method* of making the student conscious of the high speed desired, is applied in another way. But *this method is everything*. It lies at the very foundation, and affords a way by which inexperienced players can learn the knack of playing fast, and at the same time secure what is of equal importance to the later development, *the certainty of practicing their exercises in three or four degrees of speed radically different from each other*. By this diversified speed of practice alone will brilliant playing be attained.

SEC. 12. So whatever of novelty the teacher may find in these graded exercises, and however difficult they may seem for the place they occupy in every department of this system, it is hoped that they will be faithfully attempted, in careful observance of the directions appended; which being done, the Author has no fears for the result. He desires simply that other teachers may find in this simple exercise the aid that he has invariably had from it in many years' experience in teaching.

DEFINITIONS.

SEC. 13. In the course of these works it is found convenient to employ certain terms in definite meanings, which being in part peculiar to this system, or not generally a part of the terminology of *technics*, need to be accurately defined.

Time in music includes all the elements of tone-length and duration, as also rests, pauses, holds, etc.

Meter is the measuring off of the time into a definite rate of *pulsation*, and the grouping of these into *measures* by means of accents. Every piece limits its motion in time by assuming a certain pattern of pulse-rapidity, and a certain frequency of accent. This continues to the end of what is called the *movement*; which is changed whenever there is a new *rate* of pulse, or a new *grouping* of pulses into measure. Meter holds the same place in the *time* of music that tonality holds in *tune*. In the same way that a movement is composed in a certain *meter*, so a melody is composed in a certain *key*; *i. e.*, all the tones in the melody are taken from a certain key, or are related to it. In like manner all the durations in a piece are computed by reference to the meter.

Rhythm is the rate at which the tones of the music move, as measured against the background of the meter. Hence rhythms are complicated to an endless degree, and it has not yet been found possible to form a terminology capable of expressing them clearly. In the present work the rhythms are comparatively simple, being pulse-rhythms, or half-pulse, quarter-pulse, etc., without subordinate modifications. An established rhythm of this kind in a piece of music is called a *motion*, and is generally found in the accompaniment, or the counterpoint, and rarely, in this simple form, in the melody itself.

Metrical Treatment. By metrical treatment is meant playing the form (that is to say the scale or arpeggio) in a certain kind of meter (measure).

Rhythmical Treatment. By rhythmical treatment is meant playing an exercise in *rhythmical relation*; which may be either one of two kinds, or both together: First, the different meters may be combined in it in such a way as to show their mutual relation. This takes place in all the Rhythmic Tables of the present work, such as those in Exercises 6, 7, 11, 36, 39, and many others. These are designed to correct the common imperfect misapprehension of the exact relation existing between half-pulse, quarter-pulse, and eighth-pulse motions in the same movement. Second, a single rhythmic motion may be taken and repeated over and over through the form until the rhythm is completed by the return of the accent to the starting point. This is what takes place in all the exercises in the present work, especially in the sixes, nines, and other forms which do not complete themselves upon the first repetition of the pattern. Third, both methods may be combined in the same exercise. This takes place in all the Graded Tables, especially in those containing sixes and nines. The object of rhythmic treatment is that of intensifying the sense of rhythm, which being the representative of the mathematical part of music, requires to enter into the playing with the exactness of mathematical proportion.

Accent is a stress laid upon a tone in order to

indicate its relation to something else in the same connection.

Metrical Accents are those which mark the meter by a stress laid upon certain tones in order to indicate the boundaries of rhythmical unities. Hence two important practical considerations follow: First, the Accent must be *distinct to the ear of the hearer*, and unmistakable. This is a vital point too generally neglected. Second, every rhythmic unity has two boundaries, a beginning and an ending. The hearer must be able to distinguish both these by means of accent. The end of one unity is generally the beginning of another.

Motion-Patterns, or simply "Patterns," are outline-patterns of the *direction* which the hands take with reference to each other, in the performance of scales or arpeggios. Such as *direct* (both hands in the same direction and at octaves); *contrary*, (the hands moving in opposite directions); *canon*, (where one hand follows the other at a certain interval, repeating the same melody). *Velocity*, (the instantaneous sweep of the hands from one extreme to the other,) etc. The term "practice-forms" has been reserved for application to the different forms arising from treating the "motion-pattern" metrically. Hence every motion-pattern may afford a considerable number of "practice-forms."

ARPEGGIOS.

CHAPTER I.—ARPEGGIOS DERIVED FROM THE DIMINISHED SEVENTH.

SEC. 14. By *Arpeggio* is meant a melodic formation produced by the tones of a chord sounded separately. The term *Broken Chord* is herein applied to those arpeggio forms arising from the tones of a chord taken in *irregular order* according to the pitch. Arpeggios consist of the tones of a chord taken *consecutively* according to the pitch.

Arpeggios are founded upon Triads (chords of three tones), and upon Seventh chords (chords of four tones). For reasons purely of a mechanical nature, the practice is recommended to begin with the positions on the diminished seventh, which is here to be introduced and taught in a mechanical manner. The advantage of employing the seventh chord instead of the triad in the earlier stages of practice are two: First, it employs all four of the fingers in regular order, whereas in triad arpeggios there is always one finger omitted, consequently, these arpeggios are easier for the student. Second, they give rise to a great variety of available forms, and when exhaustively carried out, amount to a complete summary of four-note arpeggios.

SEC. 15. Purely as a matter of convenience the C

position of the diminished chord is taken as a starting point, as shown in the figures 1a and 1b, and in Ex. 1, page 11. By regarding this position as a starting point, and as a preparation for each harmonic change, the various positions which follow are, by means of a simple device, arranged in the order in which they here appear.

Observe that the thumb and fifth finger remain in the octave position throughout the entire series. The harmonic changes are brought about by moving the 2d, 3d and 4th fingers, first singly, then in pairs, and

finally the three together. It is essential to bear in mind that these changes must, in musical parlance, be uniformly by half-steps. For example, place the left hand in the primary position, see Figure 1. Now move the second finger to the next key on the left, and we have the second position, as shown in Figure 2. Always remembering to place the hand in the primary position before proceeding to the formation of a new one, the fifteen different hand-positions of the First Series may be tabulated as shown below.

TABULAR VIEW OF DERIVATIVES FROM THE C POSITION OF THE DIMINISHED CHORD.

FIRST SERIES.				SECOND SERIES.			
{ The thumb and fifth finger remain }			SEE FIG.	{ The thumb and fifth finger remain }			SEE FIG.
{ in the octave position, throughout. }			I.	{ in the octave position, throughout. }			I.
"	Move the 2d finger to the next key on the left,		II.	"	Move the 2d finger to the next key but one upon the left, whole-step lower,		XVI.
"	" 3d " " " "		III.	"	Move the 3d finger to the next key but one upon the left, or a whole-step lower,		XVII.
"	" 4th " " " "		IV.	"	Move the 4th finger to the next key but one upon the left, or a whole-step lower,		XVIII.
"	" 2d " " " right,		V.	"	Move the 2d finger to the next key but one upon the right, or a whole-step higher,		XIX.
"	" 3d " " " "		VI.	"	Move the 3d finger to the next key but one upon the right, or a whole-step higher,		XX.
"	" 4th " " " "		VII.	"	Move the 4th finger to the next key but one upon the right, or a whole step higher,		XXI.
"	" 2d and 3d fingers to the left,		VIII.	"	Move the 2d and 3d fingers to the next key but one upon the left, or a whole-step lower,		XXII.
"	" 3d and 4th " " . .		IX.	"	Move the 3d and 4th fingers to the next key but one upon the left, or a whole-step lower,		XXIII.
"	" 2d and 4th " " . .		X.	"	Move the 2d and 4th fingers to the next key but one upon the left, or a whole-step-lower,		XXIV.
"	" 2d and 3d " right, . .		XI.	"	Move the 2d and 3d fingers to the next key but one upon the right, or a whole-step higher,		XXV.
"	" 3d and 4th " " . .		XII.	"	Move the 3d and 4th fingers to the next key but one upon the right, or a whole-step higher,		XXVI.
"	" 2d and 4th " " . .		XIII.	"	Move the 2d and 4th fingers to the next key but one upon the right, or a whole-step higher,		XXVII.
"	" 2d, 3d and 4th " left, . .		XIV.	"	Move the 2d, 3d and 4th fingers to the next key but one upon the left, or a whole-step lower,		XXVIII.
"	" 2d, 3d and 4th " right. . .		XV.	"	Move the 2d, 3d and 4th fingers to the next key but one upon the right, or a whole-step higher,		XXIX.

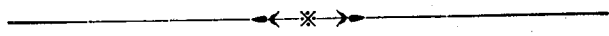
It will be seen that these various derivatives from the diminished seventh in the first series are all dominant sevenths, secondary sevenths, and the so-called 'French' sixth, *i. e.*, the chord of the augmented sixth, fourth and third.

SEC. 16. *Second Series.* Yet fifteen other derivative chords may be formed from the same primary position, by moving the 2d, 3d and 4th fingers a whole step instead of a half-step. This series of changes does not give rise to so musical chord-forms as the preceding, and the hand-positions involved are less easy and natural. For this reason the Second Series is recommended to the practice of advanced students only, and then with great moderation. The player in search of virtuosity, however, will find them of considerable assistance, since similar arpeggio forms are scattered here and there through the entire range of difficult modern compositions for the piano.

The manner of producing the entire twenty-nine derivatives of the C Position is here shown in tabular form.

SEC. 17. *Farther Development of Arpeggios.* In the same manner, by taking primary positions upon any other keys, both series of harmonic changes can be made from the new point of departure thus chosen. Since there are twelve finger-keys in the octave upon which diminished chords can be played, and since the two series of changes here described number twenty-nine for every primary position, the total number of diminished chords and derivatives included in the system amounts to 348. The number of exercises resulting from these different chords, when metrical treatment is applied to them, according to the directions hereafter given, is almost inconceivable. A very moderate estimate gives many thousands of exercises essentially different, resulting from the intelligent following out of the plans hereinafter described. It is not expected that any student will fully complete the system, or more than the first series of derivatives from a few of the leading primary positions.

TABULAR VIEW OF THE HAND-POSITIONS IN THE CHORDS OF SERIES I.



I.



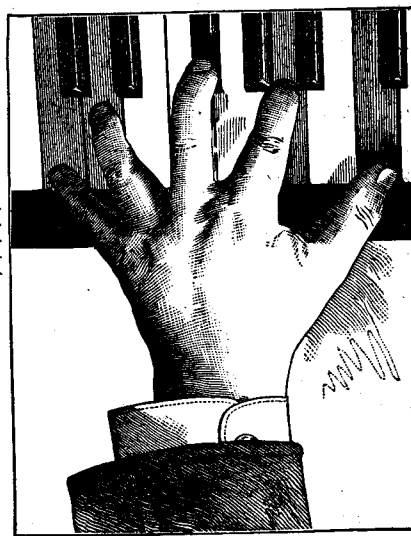
II.



III.



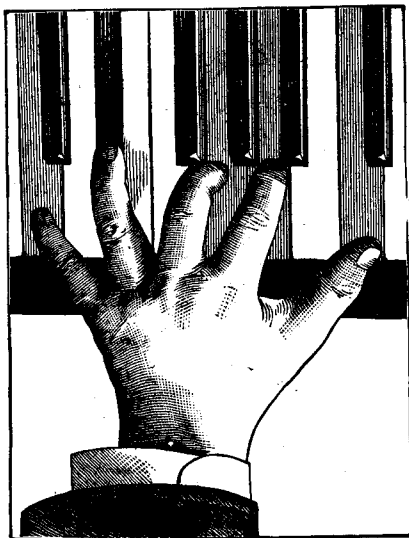
IV.



V.



VI.



VII.

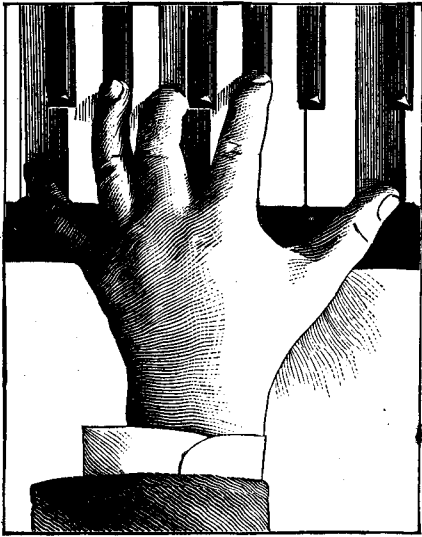


VIII.

IX

X.

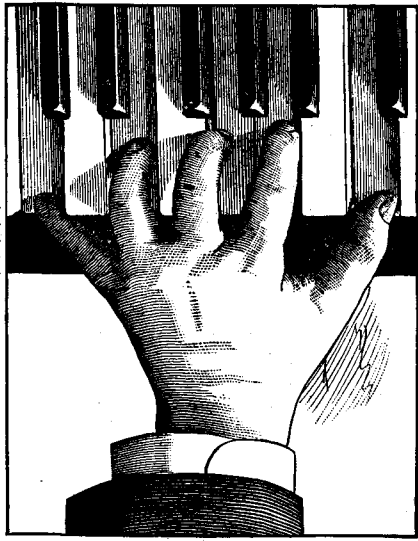
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XI.

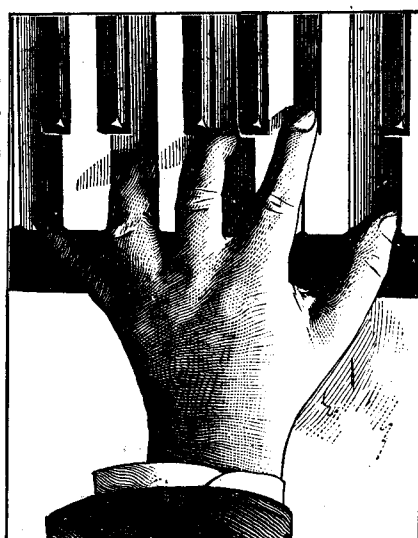
XII.

XIII.



XIV.

XV.



METHOD OF PRACTICE.

SEC. 18. The qualities desired in the satisfactory performance of running passages, whether scales or arpeggios are *four*.

STRENGTH,
ELASTICITY,
VELOCITY,
TONE QUALITY,

and these will not be acquired unless the practice be intelligently administered. Hence in every day's practice the following points must be considered and provided for:—

1. MUSICAL VARIETY, through the frequent change of scale* or scale form and arpeggio.
2. METRICAL VARIETY, through the application of various meters and rhythms.
3. RHYTHMICALLY VARIED AND GRADED SPEED, for securing repose in brilliant passages of every kind.
4. VARIETY OF FORCE, through the application of all grades and degrees of power.
5. VARIETY OF TONE-COLOR, through the application of every kind of touch.

DIRECTIONS FOR DAILY PRACTICE.

Choice of Meters. Meters of 6's, 8's, 9's and 16's are the most important for daily use.

Grades of Speed. Combine the meters in such a way, that at the very least two rhythmic grades of speed are comprised in every exercise; in a majority of cases three grades should be practiced in connection. This is shown in the Rhythmic Tables, like Exercises 6, 7, etc. Occasionally two grades may be combined, as for instance 6's and 12's, 9's and 27's, or 9's and 18's, etc.

Complete the Form. In all cases of metrical treatment there is one principle which is absolutely universal, and admits of no exception. The rhythmic form is to be completed by playing the pattern over and over so many times as may be necessary for bringing the accent back again upon the point where it commenced. Sometimes this will happen at the end of a single repetition; at other times after two or three repetitions; in yet other cases many times through are required before the accent will fall again upon the starting point. But in every case the form must be played quite through to the end. If through inattention or sluggish rhythmic sense the meter be lost, the exercise must be

**Important Note.*—In the early stages of learning, the scale-key is not to be changed too often, but be continued for a week or more, meanwhile changing the motion-pattern and the meter, but retaining the hand in the same key until it begins to be at home in it. Later, the key of the scale may be changed every day or every two days, while metrical variety is still further applied. Still later, when an advanced stage of proficiency has been reached, the scale in many keys may be included in the practice of every day. In the early stages the element of tonality and certainty of finger must first be considered. Versatility comes later. The same principle prevails in the arpeggios where in the early stages the same primary position with its derivatives, furnishes the material for practice for perhaps some weeks together. Later more and more frequent changes are the rule.

begun again, and this must go on over and over until the attention is educated up to the ability of carrying the accent quite through, no matter how long the form may be. On page 15 will be found an example of meter of nines applied to the pattern of Exercise 1. It requires nine times up and down the figure, to complete the rhythmic form. On page 20 the meter of nines is applied to a rotation pattern of seven elements. The resulting form takes the player sixty-three times up and down the keyboard. On page 21 there is a rotation of fifteen elements, which takes the player 105 times up and down the figure. Moreover, it will not escape the attention of students specially gifted with rhythmical perception that the nines as here given require to be gone through with a second time, in order to bring the rhythmus to a fully satisfactory completion. This point, however, may be waived in practice, except for those whose rhythmic perceptions require it.

Therefore, teacher and pupil must not fail to observe that all the meters indicated in the following pages and left incomplete with an "etc." to indicate that they are to be finished, *are invariably to be played quite through to the end, and never in practical use left unfinished*, as they are in the notes merely to save space.

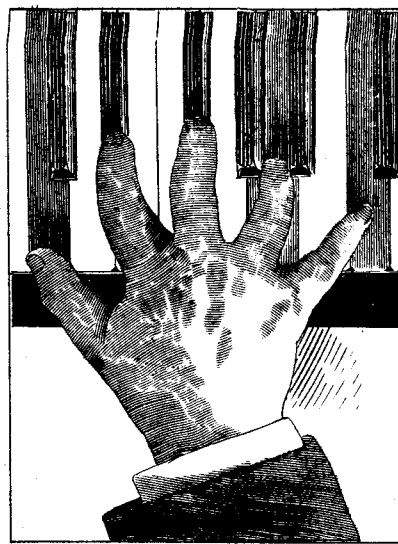
Rate of Movement. The Metronome must be in daily use. In no other way can rhythmical certainty be attained. In the graded studies in rhythm the tempo should be set to a pulse movement of 72, and in this tempo at least three grades of speed be played, like the rhythms in Tables I, II and pages 12, 13. Very soon four grades can be played in this tempo. Then increase the speed day by day. In more advanced stages of proficiency the tempo must be carried as high as 100, and so on to 132 or 152, in which advanced players will still have plenty of time for four grades of rhythm. This will amount to the unusual rapidity of 1216 tones to the minute. In daily practice, however, even advanced performers will find a speed of about 132 sufficiently fast, when four grades are played. In many cases, however, it will be advantageous to play only three grades, and to take the tempo somewhat more rapidly, say from 132 to 184, as the pupil gains in technic. The latter in three grades containing fours will give the very respectable, but wholly practicable speed of 736 tones per minute. In short, increase the speed as technic improves. Increase it as a means of improving the technic. But do not make the main part of the daily practice in a tempo as fast as the pupil can merely scramble through. Moreover, the teacher must not fail to observe two points: (1) The use of three grades geometrically related, as in the Rhythmic Tables here, ensures an amount of comparatively slow practice far beyond what students generally get. (2) The art of playing very fast passages with repose and clearness is one which cannot be acquired without considerable practice in fast tempos, which educates the hand to the necessary lightness and celerity.

Practical forms of arpeggio derived from the diminished Chord.

Sec. 19. Beginning with the primary chord, and the arpeggios derived from it, the hands are to be placed in the positions shown in the illustrations following:



Left hand.



Right hand.



Exercise 1. Meter of *Fours*. Accent with the fifth finger and thumb. Begin with the left hand in the position shown above. Play the ascending figure with the left hand. The Right hand takes the top note and plays the descending figure.

Diagram of transfer of accents.

Through successive transfers of the accent to the next finger the following measure forms will arise:

Direct:

1st Form: $\frac{4}{4}$ | ● ● ● ● |

1st Transfer: $\frac{4}{4}$ | ● ● ● ● |

2d Transfer: $\frac{4}{4}$ | ● ● ● ● |

3d Transfer: $\frac{4}{4}$ | ● ● ● ● |

Exercise 2. Transfer the accent to the fourth finger, by beginning the arpeggio with the count "four," giving rise to the measure form of the 1st transfer above.

Exercise 3. Transfer the accent to the third finger, by beginning the figure upon the count "three." This will give rise to the form indicated at (a) below.

Transfer the accent to the second finger by beginning the figure upon the count "two." This will give the form at (b) below.

a. Exercise 3. 

b. Exercise 4. 

Exercise 5. All the preceding varieties of meter produced by transfer of accent must now be practised in reverse order viz; the left hand beginning at the top of the form as in the following example.



The exhaustive transfer of accents in graded form II will result in eight forms, through the successive removal of the accent by degrees away from the point of beginning. The treatment of Grade III in the same manner will give rise to sixteen different forms, or methods of beginning.

Transfer of accents is to be exhaustively applied to the 8s and 16s in the Graded Exercise following, giving rise to eight different measure-forms in the former case, and sixteen in the latter. These although not radically different from each other, nevertheless require a different mental effort to play.

Exercise 6. Graded Study of Rhythm and Touch.

Directions for touch.

Grade I is to be played with the clinging legato touch concerning which observe carefully the directions in Vol I of "Touch and Technic," Sec. 5: "The finger strikes the key with determination, settles firmly down upon it, as with the sense of having come to stay, and the steady and continued pressure is not relaxed, but transferred at the proper time to another key, through the agency of another finger. Each key must be held with unrelaxed pressure throughout the full time-value of the tones as indicated by their representative notes." The tone quality in this grade must be full, solid, earnest, and the metrical accent at beat "one" will be scarcely perceptible, in consequence of the earnestness of the entire tone-chain.

Grade II is to be played (1) with a legato touch, but somewhat less clinging than the preceding. The tone-quality is still earnest and melodic, but the force of the touch is drawn somewhat less from the arm than in the preceding form. The metrical accent is decided, and must be made so strong as to be unmistakable.

(2). About half the practice upon Grade II must be done with the finger staccato, closely approximating the elastic touch described in Secs. 6 and 13 of "Touch and Technic" Vol. I. In this way of attacking the keys the tone is obtained by quickly drawing the point of the finger towards the palm of the hand, flexing it mainly at the second joint. When played with this touch, the accentuation must not be neglected, but must be as full, firm, and reliable as in the legato touch.

Grade III is to be played (1) with finger legato, but with very little pressure upon the keys. The accent must be distinct and reliable, but not so strong as in the preceding grade. In all the accented arpeggios and scales the accent is to be proportionate to the degree of force employed in the unaccented tones. Hence less heavy in the fast and light forms.

(2). Grade III is also to be practiced with the light finger staccato, as described in Sec 8 of "Touch and Technic" Vol. I.

Grade IV is to be played with a still lighter touch, scarcely any weight of the hand resting upon the keys. The touch is (1) legato, and (2) mild staccato, in alternation, in about equal proportions. In the mild staccato the point of the finger is slightly flexed in the act of making the touch.

Method of Practice.

In order to derive full advantage from this graded study, it is necessary to observe the following cautions implicitly, in addition to the variations of touch already mentioned.

- 1) Observe the rate of speed according to the metronome marks.
- 2) Play the exercise entirely through from beginning to end without the slightest break, deviation in time, or variation of the movement.
- 3) Play Grade I twice through.
- 4) Play Grade II four times through.
- 5) Play Grade III eight times through.
- 6) Play Grade IV eight times through.
- 7) Pass from one Grade to the next without interrupting the time.
- 8) Play Grade I *fortissimo* and *forte*.
- 9) Play Grade II both *forte* and *mezzo*.
- 10) Practice Grades III and IV *mezzo*, *piano*, and *pianissimo*.

(Note) The intention of the gradation of force is that, in all varieties, the faster forms are played with a lighter touch than the slow forms in connection. Hence when Grade I is played *fortissimo*, Grade II must be played *forte*, Grade III *mezzo*, and Grade IV *piano*.

11) Grades II and III are the most useful forms for many repetitions. They are also the ones in which "rotations" should be practiced. See exercises 14, 15, etc.

12) Be sure that the accents on the first note in each measure are always sufficiently marked to be unmistakably perceptible to the ear.

Grade I. ♩ = 100.

Grade I. ♩ = 100.

Grade II. ♪ = 100.

Grade III. ♪ = 100.

Grade IV. ♪ = 100.

In all the transfers of accent heretofore given the accent remains throughout the exercise upon the finger to which in the beginning it had been assigned. An exercise of this kind has the merit of concentrating the attention upon the finger which is to administer the accent, and these forms of accentuation are therefore peculiarly advantageous in the earlier stages of the practice. But for the qualities of smoothness and lightness triplet meters are more advantageous, when once the earlier stages of arpeggio practice have been passed, since the rhythm in these forms invariably crosses the musical motive, and only after several repetitions does the accent fall a second time upon the corresponding tone of the chord. Hence for daily practice, forms like the following are to be much used.

Exercise 7. Graded Study of Triplet-Rhythms.

(1) Play through two octaves in quarter notes, counting two; at the beginning of the repetition play a triplet to each count, still counting two; continue this rhythm until completed by the accent falling again at the beginning of the figure; at this point change the count to three, still playing triplets, and continue the meter of "nines" until the rhythm completes itself with the accent upon the tone of beginning; if the student desires he can effect a still farther doubling by continuing the exercise in eighteens when the nine is completed, which will be done by playing two triplets to each count, or by counting six in each measure. This rhythm will require nine repetitions.

Observe all the different applications of touch directed in exercise 3.

Be very careful to *keep steady time throughout.*

(2) *Variation.* Yet another graded exercise may be derived from the following notes by playing first the slow movement in common time, four quarters to a measure; then proceed immediately to triplets, four in a measure, giving rhythms of 12's, requiring to be repeated three times in order to complete the form. This derivative will be precisely the same as the Meter of Sixes, with every alternate accent omitted, and two measures counted as one.

Grade I. Meter of Twos.

Grade II. Meter of Sixes (Two Triplets)

Grade III. Meter of Nines. (Three Triplets)

Right (6) Right (7) Right
Left Left Right
Left Right
Grade IV. Meter of Eighteens.
(Six triplets.)
etc.

Exercise 8. Transfer of Accents in Triplet Meters.

While the triplet forms of arpeggio bring the accent upon each finger in turn, impartially, there are certain advantages in varying the method of beginning, by transferring the accent to the second, third, fourth, or fifth tone of the figure, in the same manner as already illustrated in the treatment of the meters of four and eight. In these cases the beginning will correspond to one of the beginnings in exercise 7. When the accent begins with the second tone of the figure, the form will correspond to the beginning of the eighth repetition, and the entire form will be precisely the same as if Exercise 7 were to begin at (8) and after making the ninth repetition should go on to complete itself by beginning with the first, and so on to the point where the eighth repetition commenced. In like manner when the accent begins with the third tone, the entire form will correspond to Exercise 7 beginning with the 6th repetition, and ending there after completing the *da capo*. While the transfers of accent in the meters based upon triplets do not give rise to radically new forms, the mental effort is slightly different with each transfer of accent. Wherefore the following table is given of the measure-forms considered most useful and effective for all forms of arpeggios.

Table of most important measure-forms for practice.

(To be applied to all derivative chords, and to all the arpeggio forms preceding or to follow in the course of this volume.)

4/4 4/4 etc. 4/4 4/4 etc.
4/4 4/4 4/4 etc. 4/4 etc.
6/8 6/8 6/8 6/8 6/8 etc. 6/4 etc.
9/8 9/8 9/8 etc. 9/8 etc.

Exercise 9. Arpeggios in Velocity. (Direct and Reverse.)

The following applications of the velocity principle, more fully discussed in volume II of "Touch and Technic," are to be carried out to the compass of at least two octaves; and by advanced pupils to four octaves. In these exercises the following directions must be carefully attended to.

(1) Keep the time exactly.

(2) Be sure and count out the rests their full time. The periods of repose between the successive efforts, or "spurts," of playing the velocity run, are very important.

(3) Listen carefully for inequalities of tone, especially where the thumb is passed under a finger. The run must be very light, even, brilliant and spirited, and the crescendo carefully observed.

A. Ascending from a fixed point by equal or enlarging distances.

Velocity in ascending forms. To be applied to all chord positions, and made a part of daily practice.

Continue until the compass of four octaves is reached, as in "e"

At present play the left hand according to the fingering and form in "A"; answer each run of the left hand with one by the right passing through the corresponding distance according to the fingering and form at "B". Later the left hand according to "C" and the right hand according to "D". Still later, after the reverse forms have been introduced, the remaining forms will be needed.

B In descending forms.

2^d form.

C. Ascending from different points by equal or greater distances. (Corresponding to a transfer of accents.)

Ascending.

D. Descending from different points, by equal or enlarging distances.

Descending.

3^d form.

E. The hands answering each other through a compass of four octaves.

Arpeggios in reverse direction of the hands.

All the exercises thus far given employ the hands in the direction from the weak fingers towards the strong ones. It is even more important to employ them in the opposite direction, since it is always easier to play towards, or in the direction of the thumb, than in the reverse direction.

Exercise 10. Primary Arpeggio in Reverse Direction of the hands.

Begin with the left hand at the top of the figure, playing all the descending passages with the left hand; all the ascending passages are played by the right. *To be applied to all the metrical forms and the velocity practice thus far given, and to be carried out later in all derivative chords hereafter mentioned.*

Important Caution. In playing these reverse forms two very important points must be observed: First, the arm must be carried along from left to right and from right to left with an even motion, and not by a series of jerks.

Second, the legato where the fourth finger is passed over the thumb must be scrupulously observed. In order to secure the latter point a preparatory exercise like the following may be employed.

Be sure to hold the thumb the full time of its notes.

To be practised with each hand separately.

The most important assistance in the light movement of the thumb will come from the velocity forms in reverse direction, Ex. 12. Therefore these must be introduced immediately, and diligently cared for in the work of every day.

Exercise 11. Graded Arpeggio with reversed motion of the hands.

Experience has shown that students generally find it difficult to effect changes of chords or movement when the hands are extended in unfamiliar positions. Therefore it is also necessary to practice the graded arpeggio in this form as well as that in Ex. 3.

Observe carefully all the directions given before, especially those on pages 12 and 13.

Grade I. M. M. ♩ from 72 to 154. See Sec. 19.

Grade II.

Grade III.

Grade IV.

Exercise 12. Velocity forms in reverse direction.

Play the velocity forms in the reverse direction as follows: Play the right hand according to Ex. 9, "A," answering each run with the corresponding distance of the left hand according to "B." Later take the forms at "C" for the right hand, answering with the left hand according to "D." Finally the forms in "E," both hands in reverse directions.

Sec. 20. When to introduce the derivative forms.

It is optional with the teacher to carry the pupil entirely through all the metrical treatments of the diminished chord given in exercises 1 to 9, before proceeding to vary the harmonic interest, and at the same time the mechanical adjustment of the hand, by intro-

ducing one or more of the fifteen derivatives of the First Series. In a majority of cases it is better to introduce one or more of the changes without waiting until the pupil has entirely completed the metrical treatments preceding. When a new form has been introduced however, it is not intended to supersede the old one entirely, but both together are to be carried through the metrical treatments remaining. And so on when yet other derivatives are taken, all together are to be carried through one metrical treatment after another, completing the whole practice with the "rotation" exercises like those in numbers 14 to 20. Each one of these derivatives should be practiced sufficiently when first introduced, to conform the fingers to its positions before introducing another. For directions for producing these derivative chords mechanically, see Table, page 8.

Rotation Arpeggios.

Sec. 21. As soon as the pupil has been carried through the principal rhythmic treatments of the six derivatives thus far given, various exercises in rotation are to be practiced, both in direct and in reverse motion of the hands.

Exercise 14. *Rotation Arpeggio of Chords I to VII, inclusive. In meter of eights.*

Begin with the first chord and after having it played up and down through the compass, proceed immediately to the second chord, and at the next ascent to the third, and so on until the entire series has been completed.

The image displays seven rotation arpeggio exercises, labeled I through VII. Each exercise is presented as a pair of staves: the top staff is for the Right hand and the bottom staff is for the Left hand. The exercises are arranged in a staggered grid pattern across the page. Each exercise shows a sequence of notes with fingerings (1-4) and a starting point marked with a '1' and a downward-pointing arrow. The exercises are:

- I:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.
- II:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.
- III:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.
- IV:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.
- V:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.
- VI:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.
- VII:** Right hand starts on a high note, moving down; Left hand starts on a low note, moving up.

 The exercises are in a 4/8 time signature. The notes are arranged in a sequence of chords, with the right hand moving downwards and the left hand moving upwards through the compass.

Exercise 14b. *Rotation in reverse direction of the hands.*

Begin with the left hand at the top of the figure, like Exercise 11, making the change from one chord to the next at the top instead of the bottom.

Rotation forms in triplet meters give rise to extremely long forms, and are therefore peculiarly useful for developing musical intelligence and concentration, as well as steadiness and endurance, in the playing. The most difficult of these is the rotation in meter of Nines, which does not complete itself until after the entire series of seven chords has been played nine times through. On account of the space required to show this exercise in full only the first time through the series is given.

Exercise 15. Rotation Arpeggio, Chords I to VII inclusive.*Meter of Nines.*

Begin with the accent, count three, take a new chord at each beginning of the ascent, and continue until the accent falls again at the beginning of the first chord.

As soon as Chords VIII to XV have been carried through the necessary rhythmic treatments individually, they must be combined into a rotation exercise upon the same plan as those in Exercises 13, 14 and 15. Thus will arise the following forms:

Exercise 16. Rotation Arpeggio, Chords VIII to XV inclusive. Meter of Eights.*Direct Motion of the Hands.*

Begin with Chord VIII, (See Ex 19.) at each ascent take the next succeeding derivative; Count two, play four tones to each count.

Exercise 17. Rotation Arpeggio, Chords VIII to XV inclusive. Meter of Eights.*Reverse Motion of the Hands.*

Begin with the left hand at the top, when each descent begins take the next succeeding derivative; Count two, play four tones to a count.

Exercise 18. Rotation Arpeggio, Chords VIII to XV inclusive. Meter of Nines.*Direct Motion of the Hands.*

Begin with the left hand at the bottom, (at VIII in Ex. 19.) and at each ascent take the next succeeding derivative; Count three, play triplets to each count; Continue until the accent comes out again at the beginning of Chord VIII. (This requires seventy-two ascents and descents before the form is completed.)

Exercise 19. Rotation Exercise Chords I to XV, inclusive.*Meter of Sixteens.*

Begin with Chord I left hand at bottom of compass. At each ascent take the next succeeding derivative; Count Four, four tones to a count.

The image displays a musical score for Exercise 19, consisting of 15 numbered measures of music. Each measure is written on a grand staff (treble and bass clefs) in a 4/4 time signature. The music is a rotation exercise, where each measure contains a specific chord and its derivative. The notes are primarily eighth and sixteenth notes, often beamed together. The key signature is one flat (B-flat). The measures are arranged in a grid-like fashion, with two measures per row. The first measure of each row starts with a bass clef and a B-flat, indicating the starting point for the left hand. The measures are numbered I through XV, with the final measure (XV) being shorter than the others, ending with a double bar line.

Still more difficult are the rotation forms in which a new derivative is taken at each turn from ascending to descending, and vice versa, as in Exercise 20. Those desiring a still greater degree of difficulty may go to yet other forms, introducing a new chord every two octaves, or in the still more complicated form of changing with every octave. This exercise when carried through the entire series of derivatives and positions, will afford exercise for would-be virtuosi.

Exercise 20. *Rotation Arpeggio, Chords I to XV inclusive, changed with every change of direction. Meter of Sixteens.*

Begin with the left hand at the bottom of the first chord; at the top change to the second chord; at bottom to chord III; and so on through the exercise. Count four, four tones to a count.

The musical score for Exercise 20 is presented in four staves, each containing two measures of music. The chords are numbered I through XV. The first staff contains chords I, II, III, and IV. The second staff contains chords V, VI, VII, and VIII. The third staff contains chords IX, X, XI, and XII. The fourth staff contains chords XIII, XIV, XV, and ends with 'Fine.'

Second series of Derivatives from the primary position.

The following are the arpeggio figures of the second series of derivatives. They may be applied to all or any of the metrical treatments and practice forms preceding or following.

The musical score for the second series of derivatives is presented in two staves, each containing seven measures of music. The chords are numbered XVI through XXIX. The first staff contains chords XVI, XVII, XVIII, XIX, XX, XXI, and XXII. The second staff contains chords XXIII, XXIV, XXV, XXVI, XXVII, XXVIII, and XXIX.

Two hand positions of the Arpeggios.

Sec. 22. All the derivatives of the diminished chord are to be carried through all forms of metrical treatment, with both hands together, in the same manner as already given for the hands singly.

Exercise 21. Chord I, with both hands in Sixths.

Left hand plays in the primary position; right hand begins with the fourth finger upon its own key, as in the primary position. Count four.

(a) One Octave. (b) Compass of Two Octaves. (c) Compass of Three Octaves. (d) Compass of Four Octaves.

By progressive degrees, adding one tone at each effort, the compass is to be extended to two octaves, three octaves, and at length four octaves.

Exercise 22. Graded Arpeggio in Sixths. Table I.

Carry out the Rhythmic Table I, as in Exercise 6, in the two-hands position, as above. Observe all the directions for touch and tempo, (Pages 12 and 13.)

Exercise 23. Transfer the accents, in the same manner as in Exercises 4 and 5.

Thus will arise measure-forms like the following:

Each of these measure forms is to be carried through Rhythmic Table I, after which Rhythmic Table II is to be applied, in the same manner as in Exercise 7.

Exercise 24. Two-hand Arpeggio, Chord I, Four Octaves.

Meter of Nines.

Begin at the top of the figure, in sixths. Count three, play triplets to each count. Continue until the accent returns to the point of beginning.

Exercise 25. Two-hand Positions, Chord I. in Velocity.

Observe the directions in Exercise 9, and gradually increase the compass.

Two-hand Positions of Derivatives of Primary Chord.

The following are the beginnings of the two-hand positions of the entire first series of derivatives of the primary chord. Each one in turn is to be carried through the same metrical treatment, and in substantially the same order, as already given for the hands singly in the first 25 exercises of the present volume. After due mastery has been gained of the derivatives individually, they are to be combined into a rotation exercise like Exs 14 to 20.

Exercise 32. Rotation Exercise of the First Series of Derivatives of the Primary Position, in Sixths.

Meter of Eights.

Begin in the same position as exercise 22; Changing to a new chord at each ascent until the rotation is completed

Exercise 33. Rotation of Chords I to VIII in Meter of Nines.

like Ex. 15.

Begin as in the previous exercise, and carry out the form precisely as in exercises 14 & 15. Count through play triplets.

Exercise 34. Grand Rotation of Chords I to XV, Meter of Eights.

Carry out the form of exercise 19 for both hands in sixths.

Exercise 35. Grand Rotation of Chords I to XV, Meter of Nines.

Carry out the form of exercise 19 for both hands in rhythms of 9s.

To entirely complete the exercise will require nine times through the entire form, or 135 times up and down the key board.

Arpeggios derived from other Positions.

Sec. 23. When the derivatives of the C position have been sufficiently practised, those from the G and F positions should follow, carrying each in turn through the entire variety of treatment here illustrated for the derivatives of the C position, but much more rapidly in succes-

sion. Each new chord involves new adjustments of the fingers, and the frequent changes conduce to flexibility and adaptability of the hands. Advanced pupils should on no account fail to go through the entire fifteen derivatives from each new position. The two-hand positions of the derivatives of G here follow.

Two-hand Positions of Chords I to VII of G Position.

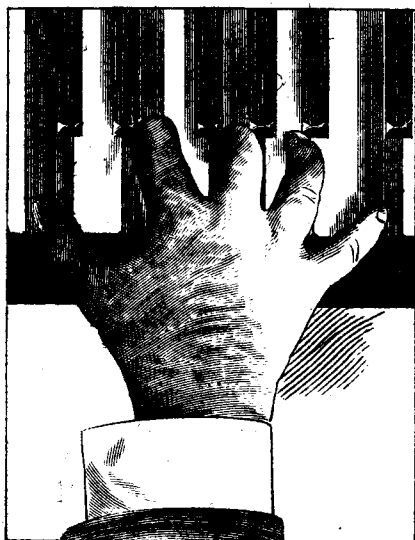
Two-hand Positions of Chords I to VII. of F Position.

Triad Arpeggios.

Arpeggios derived from Triads are more difficult to finger than those derived from seventh chords, in consequence of the number of tones being less than the number of fingers. Hence there is always one finger to be omitted; the omitted finger being at times the fourth and at times the third, according to the position. This difficulty will yield only after considerable practice, and a most rigid adherence to the strict fingering as shown in the illustrations below. The variations from this fingering which were permitted by most authorities until recently, the author disfavours, regarding it as on the whole better, safer, and quite as easy in the long run, to employ the strict fingering in every instance. The fourth finger, which in some of the black key positions is refractory at first, presently reconciles itself to the some-

what abnormal extension, and as a result gains materially in strength and facility, and becomes of correspondingly increased use in these as well as in other passages. In case a peculiarity of the individual hand renders this rule a hardship in such positions as some of those of the triad of B, it may be relaxed. Another instance where it may be disregarded is in the broken chord passages at the beginning of the finale of Beethoven's "Moonlight Sonata." But no such exception should be made until after an honest trial has shown the proper fingering to be impracticable for the individual player.

The three positions are shown below, as they appear for both hands, with the proper fingering.



In continuing the practice of triad arpeggios, care must be taken to select those in turn which bring into use all the different positions of the hands upon the white and black keys. The triads entirely upon the white keys are those of C, F, G, A minor, E minor and

D minor. Those with a black key for third are D, E, A, C minor, F minor and G minor. Those with two white keys and one black are D \flat , E \flat , A \flat , C \sharp min. F \sharp min. and G \sharp min. Entirely on black keys, F \sharp and D \sharp min. Care should be taken to rotate in the practice so as to cover all kinds of positions.

Sec. 27. The metrical treatment of the triad arpeggio begins with meters of threes, because the forms derived from this meter have the advantage of bringing the accent upon the same finger in all the octaves of the figure. The accent is transferred from one to another in the same manner as in the arpeggios derived from the diminished chords. Thus arise the metrical patterns following:

Measure - Forms:

$\frac{3}{4}$	|	•	•	•	|	direct
$\frac{3}{4}$	|	•	•	•	|	1 st transfer
$\frac{3}{4}$	|	•	•	•	|	2 ^d transfer

Or in notes as in Exercise 36.

Exercise 36. *First Position of Triad of C, Meter of Threes, with Transfer of accent.*

Place the hand in the first position, Count three, one tone to each unit. Play until the accent can be made with certainty and until the hand becomes habituated to the fingering; then go on with the next accent.

Notes with stems downwards for the left hand.
Notes with stems upwards for the right hand.

Exercise 37. *Graded Study of Rhythm, Applied to the first Position of the Triad. Meter of Threes.*

Observe the directions in all respects, as given in connection with Exercise 6.

Intermediate Grades between III and IV, to be used at the discretion of the teacher. Very important for advanced students.

Apply the graded exercise to the other triad positions, observing the fingering given on page 25.

The meters of Fours in triad arpeggios give rise to long forms. The fundamental measure forms are the following.

Measure - Forms:

$\frac{4}{4}$	|	•	•	•	•	|	direct
$\frac{4}{4}$	|	•	•	•	•	|	1 st transfer
$\frac{4}{4}$	|	•	•	•	•	|	2 ^d transfer
$\frac{4}{4}$	|	•	•	•	•	|	3 ^d transfer

Or in notes as shown in Ex. 36.

Exercise 38. Meter of Fours applied to the First Position of the Chord of C.

Begin with the octave position. Count four. As soon as the fingers are a little habituated to the accent, transfer it the usual manner.

Exercise 39. Graded Arpeggios derived from the Meter of Fours.

To be applied to the Second and Third Positions of the Triad. Observe the directions in Exercise 6 in every particular.

Grade I. Meter of Fours.

Grade II. Meter of Eights.

Grade III. Meter of Sixteens.

Right

Right

Grade IV. Meter of Thirtytwos.

Exercise 40. Velocity treatment of Triad Arpeggios.

Observe the directions given in Exercise 9. Play with each hand separately, the right hand answering the left, at each distance traversed by the velocity run. Or the left hand immediately answering the right.

Triad Arpeggios in reverse direction of the hands.

In the same manner that reverse directions were applied to the arpeggios of the diminished chord in Exercise 11; exercises 36 to 37 should now be practised in reverse direction, the left hand playing all the descending passages and the right hand all the ascending. Any inequality which may be noticed in the passage of the thumb in this form of exercise will very soon yield to the practice of the fast forms of the Graded exercises,

and the velocity forms, which here take the reverse direction, the right hand fingering as in Ex. 40 "A," the left hand as in Ex. 40 "B."

The teacher must not overlook the fact that the triad arpeggio forms foregoing furnish a complete apparatus for treating this part of the technic. They are to be applied to all positions, carried out in reverse directions, and applied to other chords. The most important rhythms for daily practice are the 12's, 18's and 24's of exercise 37, and the 8's, 16's, and 32's of exercise 39.

Sec. 29. Broken Chords derived from Triads. The following forms of broken chords derived from triads, are to be applied to the other two positions of the triad, and other triads, according to the direction of the teacher, or the ambition of the student, until the hands are thoroughly trained in passages of this kind.

Exercise 41. Graded Study of Meter and Rhythm starting from a four-pulse meter.

Observe all the directions in regard to time, movement and touch, found in connection with Ex. 6.

Grade I. Full-Pulse Motion. *Meter of Fours.*

Grade II. Half-Pulse Motion. *Meter of Eights.* etc.

Grade III. Quarter-Pulse Motion. *Meter of Sixteens.* etc.

Fine

The primitive forms of 4-4 measure are four in number, of which Grade I above represents the first. The remaining forms are obtained by a transfer of accents exactly as in Exercise 3. The measure-forms thus resulting are the following, each of which must be carried out in all grades, exactly like Exercise 41 above.

2^d Measure-Form. 3^d Measure-Form. 4th Measure-Form.

Exercise 42. Graded Study of Meter and Rhythm, starting from a Three-Pulse, and subdividing by 2.

To be carried out in strict time and in various degrees of force and qualities of touch.

Grade I. Full-Pulse Motion. *Meter of Threes.*

Right *etc.*

Left

Grade II. Half-Pulse Motion. *Meter of Sixes.*

Right *etc.*

Left

Grade III. Quarter-Pulse Motion. *Meter of Twelves.*

Right

Left

Exercise 43. Meter of Sixes and Nines.

This may be derived from Exercise 39 if the teacher pleases, by playing one triplet of the sixes in the time of a quarter note in Ex. 39. At the beginning of the meter of Nine change the count to three in a measure.

Meter of Sixes.

Right

Left

Meter of Nines.

Right

Left

Exercise 44. Broken Chord Exercises in Canon, Right hand leading. Requires eight times up and down to complete the form. *Meter of Sixteens.*

Exercise 45. Canon Broken Chord Exercise. Left hand leading.

Exercise 46. Various forms of Canon, obtained by applying transfer of accent to Sextolets, each hand leading in turn. The beginnings merely are indicated.

Right hand leading.

1st Transfer 2d Transfer 4th Transfer 5th Transfer

Left hand leading.

1st Transfer 2d Transfer 3d Transfer 5th Transfer

Meter of Nines. Requires nine times up and down.

A musical exercise in 9/8 time, consisting of two staves. The melody is written in the treble clef and the bass line in the bass clef. The piece is marked 'etc.' at the end.

Other forms may be obtained by applying the transfer of accent to the meter of nines. The measure forms obtained will correspond to those in the meter of sixes.

Exercise 47. Modulating Series of Chords.

By a series of changes, in which each chord differs from the preceding in a single tone only, the figure modulates successively upwards through the entire octave, according to the harmonic pattern shown on page 31 at 47b. Pay no attention to the double bars. They are intended to assist the eye in observing the point where the key is changed.

The first system of musical notation for Exercise 47, consisting of two staves. The key signature is one flat (B-flat major or D minor) and the time signature is 6/8. The piece begins with a checkmark on the left margin.

The second system of musical notation for Exercise 47, continuing the modulating series of chords. The key signature changes to two flats (B-flat major or D minor).

The third system of musical notation for Exercise 47, continuing the modulating series of chords. The key signature changes to three flats (B-flat major or D minor).

The fourth system of musical notation for Exercise 47, continuing the modulating series of chords. The key signature changes to four flats (B-flat major or D minor).

Exercise 47 (b). *Harmonic completion of the Preceding.*

Carry the modulation on through the entire octave. When this can be done easily, the broken chord exercise will not be difficult.

Two staves of musical notation for Exercise 47 (b). The first staff contains two measures of broken chords in G major and G minor. The second staff contains two measures of broken chords in D major and D minor. The chords are broken in a way that allows for a smooth modulation through the octave.

Sec. 30. Broken chord forms. *Practice forms derived from the Diminished Chord.*

The following graded exercises embrace the meters of 6s, 8s, 9s, 12s, and 16s, the 6s and 12s in the different forms in which they arise through the order of subdividing the unit. If these are properly carried out in the derivative chords they will afford a sufficient variety of exercises of this kind. It may be added that they are extremely useful to the fingers.

Exercise 48. *Graded Study in Broken Chords derived from the diminished Chord. Meter of Fours, Eights and Sixteens.*

To be played in strict time, and with the varieties of touch and force recommended in Ex. 6.

Grade I. Meter of Fours.

Grade I. Meter of Fours. The notation shows two staves: Right and Left. The right hand part is a sequence of eighth notes in a broken chord pattern, starting with a diminished chord. The left hand part is a sequence of quarter notes in a broken chord pattern, also starting with a diminished chord. The exercise is in 4/4 time.

Grade II. Meter of Eights.

Grade II. Meter of Eights. The notation shows two staves: Right and Left. The right hand part is a sequence of eighth notes in a broken chord pattern, starting with a diminished chord. The left hand part is a sequence of quarter notes in a broken chord pattern, also starting with a diminished chord. The exercise is in 4/4 time.

Grade III. Meter of Sixteens.

Grade III. Meter of Sixteens. The notation shows two staves: Right and Left. The right hand part is a sequence of sixteenth notes in a broken chord pattern, starting with a diminished chord. The left hand part is a sequence of quarter notes in a broken chord pattern, also starting with a diminished chord. The exercise is in 4/4 time. The piece ends with the word "Fine."

Exercise 49. Broken Chord Study in Rhythm and Meter,
derived from meter of Three, subdivided by 2.

Grade I. Meter of Three.

Right etc.

Left

Grade II. Meter of Sixes.

Right etc.

Left

Grade III. Meter of Twelves.

To be carried out in the same manner as the preceding, three octaves up and down.

Right etc.

Left

Exercise 50. The same in Meter of Sixes, derived from a meter of Twos, subdividing by 3.
To be carried through three octaves, three times up and down.

Exercise 51. Meter of Nines. To be carried Nine times through three octaves up and down.