

GOODRICH'S
ANALYTICAL HARMONY

FROM THE COMPOSER'S STANDPOINT.

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GOODRICH'S ANALYTICAL HARMONY.

A THEORY OF
MUSICAL COMPOSITION FROM THE
COMPOSER'S STANDPOINT.

INTRODUCING AN EXPLANATORY TREATISE UPON UNRELATED TONES; A NEW
SYSTEM OF HARMONIC COUNTERPOINT AND DIAGRAM ILLUSTRATIONS OF MUSICAL FORM AND CONSTRUCTION.

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AUTHOR OF
"COMPLETE MUSICAL ANALYSIS," "MUSIC AS A
LANGUAGE," ETC.

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PREFACE.

THE advantages accruing from a knowledge of Harmony are not sufficiently understood, except by those who are ambitious to compose. Every singer, performer, teacher and critic is benefited in knowing the principles of chord succession, harmonization, etc. Pianists who possess this information have an immense advantage in the knowledge that modulatory tones, suspensions and appoggiaturas are accented; that dissonances are to be connected with the consonances to which they resolve; that passing tones are unaccented; that anticipations are slightly marked, and that different kinds of cadences require different kinds of punctuation. As an aid to sight-reading (that most necessary accomplishment) a knowledge of Harmony is indispensable, for it enables one to anticipate a considerable portion of music by being familiar with the notation, resolution and progression of chords in general.

Our present system of music has been gradually evolved during centuries of artistic and scientific progress. Some of the world's greatest geniuses laid the foundation, built up the structure and added the ornamentation. The theorist has, therefore, but little to do beyond that of presenting the material of composition and showing how this has been employed. Certain principles and theories may be deduced from the music of a Beethoven, and these are to be systemized and explained. But while the creative impulse in music continues to manifest itself it must be unfettered by arbitrary rules and prohibitions. Recent composers, in their use of harmony, have gone far beyond the formulas and precepts of text-books. It is no longer possible, according to existing systems of theory, or of acoustics, to explain the harmonic structure of such works as Saint-Saëns' *Danse Macabre*, Grieg's *Norwegian Dances*, Tschaikowski's *Francesca da Rimini*, or the later music-dramas

of Wagner. These creators of music followed a higher law than didactic theorem, and the theorist should act only intermediately, explaining to the student the artistic phenomena of cause and effect.

During the past twenty-four years since this system was commenced the author has confined himself principally to this task: 1. To present the material and technic of composition in systematic and graded order. 2. To explain this analytically and clearly. 3. To illustrate the application of this material in the construction of music. 4. To show the esthetic effect (and, consequently, the object) of certain chords and progressions. These are the main features of the present system, which is based upon the actual results of composition rather than upon existing theoretical works; and whatever merits this book may possess are thus ascribed to the influence of Scarlatti, Couperin, Bach, Mozart, Beethoven, Schubert, Schumann, Chopin, Mendelssohn, Wagner, Rubinstein, Dvorak, Gounod, Saint-Saëns, Jensen, Lassen, Goldmark, Tschaikowski, Grieg, and Mascagni, not to Zarlino, Rameau, Kirnberger, Gottfried Weber, Marx, Weitzmann, Richter, nor Riemann.

TO THE TEACHER.

NOT only is the plan of this book different from that of other harmony books, but some of the current nomenclature has been rejected. This need not occasion confusion, for the old and the new names are mentioned synonymously. One instance is the 5th of a normal scale. This interval has heretofore been called: Pure, Major, Standard, and Perfect. Our tempered fifths are neither *pure* nor *perfect*, therefore these names are inappropriate. *Major* is misleading, because major can not consistently be applied to such intervals as the normal 4th and 5th, which are the same in both major and minor scales. The word *standard* is more acceptable, though the author prefers calling the 4th and the 5th of every normal scale *Normal intervals*.

A few words of explanation are also offered in reference to the designation of voice-parts. In the elemental chapters of this book chords appear in their close positions—three parts in the treble and one in the base. As it is essential to correct chord progression that the student should follow the movement of each part, it has been deemed advisable to give names to these parts corresponding to the voices which would sing them if they were vocal. Therefore the author has named the different parts of such chords as these:

Soprano, the highest; *mezzo-soprano*, the middle part; *contralto*, the lowest of the three treble parts. This nomenclature is adopted for all such chords, which sound exactly as written. The word "tenor"

is not here applied to any part of a chord in close position, because a tenor part when sung from the treble staff sounds an octave lower than written. In the chapter on Harmonic Counterpoint (where dispersed harmony is first introduced) the original *mezzo-soprano* part becomes *tenor* whenever that part is to be inverted in order

to form open harmony. It is customary to name the lowest treble part *tenor*; but an equal distribution of the voices requires that all the parts shall be in open position, and this compels us to choose the middle upper part for inversion. The following examples in notation illustrate these different methods:



At (a) the chord appears in close position. At (b) the lowest treble part of the initial chord is considered as tenor and inverted. At (c) the tenor part is an inversion of the middle treble part in Ex. (a). Any one who prefers the arrangement at (b) must have queer notions about vocal music and dispersed harmony.

Particular attention is directed to the necessity of transposing the exercises into a variety of scales, for this is the surest way to a mastery of the different subjects. One of our most accomplished harmony teachers has noted with satisfaction this feature of the work. After the student has completed a certain harmonization the act of transposition should apply, usually, to the melody only. Then the harmonization is to be completed in the new scale. This is more beneficial than to transpose both melody and harmony.

By closing the books a class may write on a blackboard the various exercises without fear of unduly referring to the solutions in the text. Those who pursue the study without a tutor will understand that if they consult these solutions before the examples have been worked out they will acquire only a superficial knowledge of the subject.

Throughout the text ellipsis * * * appear whenever an example is to be worked out before proceeding farther.

The first twenty chapters are confined to concords, that the student may more readily learn to manage chords without being burdened with the additional rules of resolution which apply to discords. No discord is introduced until it is required, and in this way one subject leads to another.

Inverted bases, being rather difficult of management, are not permitted before the 27th chapter. For a similar reason the introduction of open harmony is postponed until the latter part of the book. The teacher's attention is therefore directed to the sequence of subjects as set forth in the Arrangement of Contents, and, excepting for a particular purpose, the author would not advise any deviation from this order. The present Arrangement of Contents

has occasioned more anxiety and thought than any other feature of the work, and a comparison with any standard treatise on Harmony will show great dissimilarity in this respect.

The author's plan embraced an exhaustive chapter on the Progressive Development of Harmony during different Epochs and the tendency of recent chord combinations, together with a list of References and a somewhat discursive chapter on the Supposed Physical Basis of Harmony. Owing to the already considerable size of the book the publishers advised that those chapters be omitted from the present edition and issued separately at some future time. As these parts are not absolutely essential to a text-book the suggestion has been adopted.

It is scarcely necessary to add that the chapters do not represent the number of lessons. Certain chapters, such as XIII, XIV, XXXV, XL, may require **three or** four lessons for their thorough comprehension.

A. J. GOODRICH.

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GOODRICH'S ANALYTICAL HARMONY.


PART I.

Chapter I.

NATURAL INTERVALS OF THE MAJOR SCALE.

AFTER countless experiments in scale construction, and centuries of progressive development in musical theory and practice, modern composers have uniformly adopted what is called the Normal major scale, as the most natural and important series of single tones proceeding from and returning to a given tonic or key-tone.

As the scale is the foundation of all serious music study, both theoretical and practical, a knowledge of scale construction is here presupposed. Not every teacher, however, appreciates the necessity of a thorough and intimate acquaintance with scales in all keys and all forms. Suppose, for instance, this fragment of melody

should appear: Ex. 1.  In order to an-

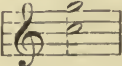
alyze, transpose, or accompany these tones we must know that they belong essentially to the scale of *A-flat*, and that *A-flat* is the key-tone. The *e-flat* and *d-flat* presuppose *b-flat* and *a-flat*, and these, together with *c*, *g*, and *f*, constitute the scale of *A-flat*.

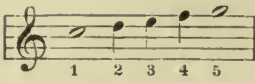
Interval is *time between events*, or *space between things*. With the scale as a basis the staff degrees afford the simplest means of enumerating intervals. In musical theory, interval refers to the

distance between tones, reckoned either up or down. Two preliminary explanations are necessary:

1. The foundation tone is counted *one*.

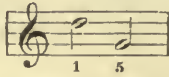
2. The numerical terms 2d, 3d, 4th, and so on, are not to be understood as fractions of a whole, but as expressing the number of degrees included in a certain interval. For instance, this is a

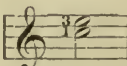
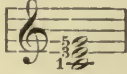
5th: Ex. 2.  because *g* is the fifth natural tone in the

scale of *c*: Ex. 3.  The black notes show that five degrees of the staff are involved in ascertaining the numerical distance from *c* (1) to *g* (5).

Intervals are computed both melodically and harmonically. When they occur separately they are melodic. Thus in singing

this: Ex. 4.  the voice ascends a 3d, and in this:

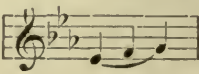
Ex. 5.  it descends a 5th. In both instances the first tone is counted *one*.

When the tones occur simultaneously: Ex. 6.  the interval is harmonic; but it is counted in the same manner as was Ex. 4. When three notes appear simultaneously they involve two intervals. These may be computed either fundamentally or componently: Ex. 7.  According to the former method

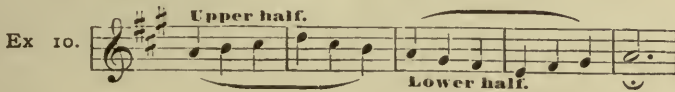
the interval from *C* to *e* is a major 3d, and that from *C* to *g* is a normal 5th. According to the latter there is a major 3d, *c* to *e*, and a minor 3d, *e* to *g*. The results are the same, though both methods must be understood.

In order that this melodic motive: Ex. 8.  may

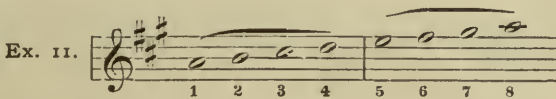
be transposed to any key, it should be described as beginning upon the tonic and ascending two whole steps. The result in *E-flat*

would be this: Ex. 9. 

To return to the scale: This consists of two equal parts called by the Greeks *tetrachords*. Each tetrachord contains two whole steps and one half step. Marx, following the Greek theory, called the tonic a "central tone" around which the other tones revolve, thus:

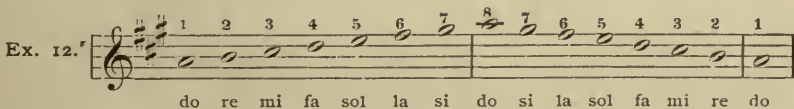


But in modern practice the lower half should appear as upper half in order to complete the scale:



Observe that the last interval in each tetrachord is a minor 2d. The intervals of this scale may be counted either melodically or fundamentally, as was the chord in Ex. 7. As the scale is alphabetical it necessarily proceeds by seconds, as from *a* to *b*, *b* to *c-sharp*, and so on. From a fundamental standpoint we have a tonic (or prime), a 2d, 3d, 4th, 5th, 6th, 7th, and octave. The first seven tones complete the scale, since 8 is a duplicate of 1. Both are called by the letter *a*, and thus the scale might be continued one or more octaves without altering its character. If the scale is counted backward the general result is the same, for the relationship of each tone to the tonic is not changed by being reversed.

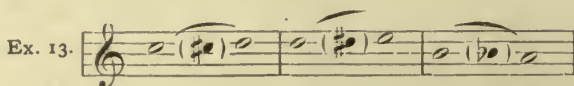
This appears in applying the vocal syllables to the scale ascending and descending, thus:



To the singer the tonic is always *do* (according to the movable-Do system), the 3d is always *mi*, the 5th *sol*, and so on. This much forms the basis of the study of intervals.

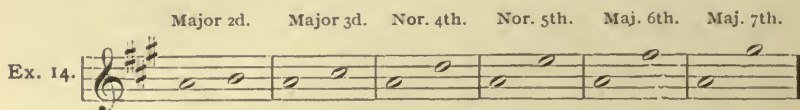
The next step is to ascertain a more specific designation for these intervals than the mere numerical terms 2d, 3d, 4th, etc. It is not sufficient to know that from *a* to *e* is a 5th; one must know what kind of a 5th this is. The interval known in scale formation

as a whole step, as from *a* to *b*, is called theoretically a major (large) 2d. This applies to successive degrees when there is a chromatic tone between them, thus :

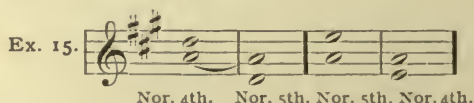


A minor 2d has no intermediate tone. These small seconds are often called "semi-tones," though the latter expression is incorrect. In all major scales the intervals from 3 to 4 and from 7 to 8 are minor seconds. If the numbers were reversed the intervals would of course remain the same. Accordingly the major scale consists melodically of major and minor seconds, distributed in the manner indicated in Ex. 11.

The intervals of the scale will now be illustrated and enumerated fundamentally.

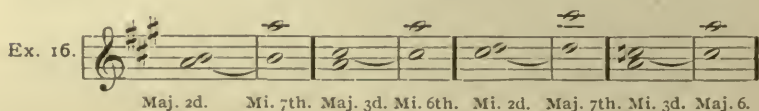


The major 2d has been described as a whole step. The major 3d is generally distinguished as containing two whole steps, but a simpler method is this: the 3d tone in every major scale is a major 3d from the tonic. The 4th and 5th are called normal, because they are the same in both normal modes (major and minor) and remain the same through inversion, as here :



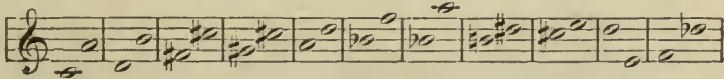
Counting from the tonic, *d* is a 4th above or a 5th below, and *e* is a 5th above or a 4th below.

Mathematically these intervals are more nearly in perfect tune than the others, and in actual composition they are treated as normal. With exception of the normal 4th, normal 5th, and perfect octave, all the intervals change their nature through the process of inversion :



The 6th tone in a major scale is major, and so is the 7th, the latter being only a minor 2d below the octave. Therefore the simplest way of naming the intervals in a major scale is this: The 2d, 3d, 6th, and 7th are *major*; the 4th and 5th are *normal*. If a pupil knows the scales it is easy to tell the name of an interval without committing to memory the old formulas, "a major 3d contains four semi-tones," and others in proportion. Examples similar to No. 14 should be written in all major scales and named by the student. * * *


These additional intervals are to be designated:

Ex. 17 

Chapter II.

NATURAL INTERVALS OF THE MINOR SCALE.

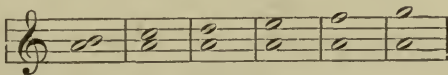
MINOR intervals are one chromatic step smaller than major intervals. *C* and *e* constitute a major third. By raising *c*, or lowering *e*, a minor third will result.

Ex. 18. 

Maj. 3d. Mi. 3d. Mi. 3d.

These are precise, theoretical distinctions, the same staff degrees being employed. In each instance the interval is a 3d; but the first is large, the other two are small.

The first seven natural intervals in *A-minor* should now be written and named theoretically, according to directions:

Ex. 19. 

1-2 1-3 1-4 1-5 1-6 1-7

Those intervals not affected by the change in signature retain the same names as in Ex. 14. Those that are one chromatic step

smaller here than they were in *A-major* are to be marked minor (less).* The difference, therefore, between major and minor lies in the 3d, 6th, and 7th, according to the signature of each mode. If the 7th of a minor scale is raised, it will, of course, become major, but the natural minor scale is used here merely to show the difference between major and minor intervals and the circumstances under which they occur. The 2d, 4th, and 5th are the same in both modes. The 3d, 6th, and 7th are major in a major scale, and minor in a minor scale.

Two comparative tables of intervals are presented, representing the tonic major and tonic minor of *G*.

Ex. 20.

1 — 2 1 — 3 1 — 4 1 — 5 1 — 6 1 — 7

Detailed description: Example 20 consists of two staves of music. The top staff is in G major (one sharp) and shows intervals of 2, 3, 4, 5, 6, and 7 degrees between the tonic G and other notes. The bottom staff is in G minor (no sharps or flats) and shows the corresponding intervals for the same degrees. The intervals are labeled as 1-2, 1-3, 1-4, 1-5, 1-6, and 1-7.

These intervals are to be named by the student.

The intervals thus far employed are the major and minor 2d, major and minor 3d, normal 4th and 5th, major and minor 6th, major and minor 7th, and perfect octave. The others have been purposely omitted until they shall be required.

Ex. 21.

Maj. 2d. Mi. 3d. Nor. 4th. Nor. 5th. Mi. 6th. Mi. 7th.

Detailed description: Example 21 shows six intervals on a single staff in G major and G minor. The intervals are labeled as Maj. 2d., Mi. 3d., Nor. 4th., Nor. 5th., Mi. 6th., and Mi. 7th. The notes are G, A, B, C, D, E, F, G.

Similar examples should be written in other natural minor scales.

Theory seems to differ from practice in the designation of certain intervals. For instance, *f* to *a-flat* is a minor 3d, whereas *f* to *g-sharp* is an augmented 2d. On all keyed instruments *a-flat* and *g-sharp* look and sound alike; yet there is a considerable difference theoretically, and a slight difference mathematically. The vibration numbers are in the following proportions: *G-sharp*, $412\frac{1}{2}$; *a-flat*, $422\frac{2}{3}$. In theory, *f* to *g-sharp* is an augmented 2d, while *f* to *a-flat* is a minor 3d. The usual difference in their resolutions may be observed by comparing (a) with (b).

Ex. 22.

a. b.

Detailed description: Example 22 shows two musical phrases, labeled 'a.' and 'b.', on a single staff. Phrase 'a.' shows a resolution from a minor 3rd interval (f to a-flat) to a perfect octave (f to f). Phrase 'b.' shows a resolution from an augmented 2nd interval (f to g-sharp) to a perfect octave (f to f).

*The natural serves as a flat in a sharp key, and as a sharp in a flat key.

In the first measure *d* and *a-flat* constitute an imperfect 5th; in the second, *d* and *g-sharp* form an augmented 4th. The student should supply the theoretical names of the following ascending and descending intervals:

Ex. 23.

A thorough knowledge of scales will enable one to name all of these intervals correctly. For instance, take *g* and *e-flat*. In *G-major* *e* is *natural*, and therefore a major 6th. In *G-minor* *e* is *flat*, and is a minor 6th above *g*.

Some of the names generally applied to intervals appear inconsistent; the author has, therefore, changed them. However, this is a matter of individual opinion, and does not affect the intervals.

Chapter III.

FORMATION OF MAJOR CONCORDS.

THE most euphonious intervals in music are major and minor thirds and their inversions, minor and major sixths. These may succeed each other without involving false progressions, though if they be too long continued the ear becomes satiated with their consonant effect.

Inasmuch as the normal scales are composed of whole and half steps, the thirds are naturally large and small. Hence a phrase like the following is perfectly euphonious, because the ear recognizes all the sounds as belonging to the major scale of *F*:

Ex. 24.

The major and minor thirds here succeed one another so naturally that none but a cultivated ear can recognize a difference; yet a major 3d is one chromatic step larger than a minor 3d, and the difference between the major and the minor mode is very pronounced.

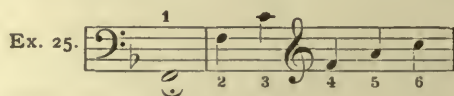
This somewhat superficial inquiry into the character of large and small thirds, and the promiscuous order in which they naturally occur in a scale, is intended to form the basis of an elementary knowledge of concords.

The natural origin of what we call Harmony may be ascribed to the philosophy of sound. Acoustics has revealed many curious and interesting phenomena of a musical character, and the student should possess at least some slight knowledge of the general results attained through purely scientific investigation.

As color is an inherent property of light, so is harmony an inherent property of sound.

Aside from the researches of philosophers and physicists, musical theorists have for centuries past demonstrated the fact that nearly all musical sounds are composite. In other words, the single fundamental tone of a bell, string or tube generates other tones related to the fundamental by natural laws. Several of these overtones were known to the Greek philosopher and theorist Pythagoras, who evolved from them something of a system; in fact the Egyptians, before the existence of the Greek nation, possessed a scale similar to our normal major scale. As the ratios of this old scale are more nearly perfect than our tempered scale, it is evident that the former was developed according to mathematical deduction.

The most important series of harmonics or partial tones are those of the natural horn, produced by variable quantities of wind-pressure, without the aid of artificial valves. These tones are numbered consecutively from 1 to 6, in the order of their arrangement:



No. 1 is the fundamental, the others are inherent elements or effects of this generator. There are other partial tones, though unrecognizable except with the aid of a resonator. The above harmonics can, however, be heard under favorable circumstances as overtones, and on the horn they all come out distinctly by means of variable wind and lip pressure.

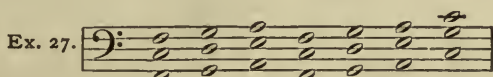
The vibration numbers of these harmonics are connected by a simple law of acoustics. If the lowest tone makes 100 vibrations a second, (2) will make 200, and so on, in the same space of time. "The proportion remains the same whatever the fundamental may be, and thus it is plain that the above harmonics belong to a fixed series of overtones."—*Taylor*.

This is why such tones as the following are so easily sounded upon the tubular instruments, like the horn, trumpet, trombone, and cornet:



The first harmonic of our series (2) is naturally the most important, as its vibration number corresponds to 1, according to the equal ratios $\frac{2}{1}$, $\frac{4}{2}$, $\frac{8}{4}$, and so on. In plainer terms, the octave makes two vibrations to every one of the fundamental. Hence the Greeks, who did not employ harmony as we understand it, sang in unison; and as there is a difference, expressed by the ratio 1 : 2, between the voices of men and women, the result was octave progressions.

The next most important interval of the series (Ex. 25) is the fifth, No. 3. The ratio is 2 : 3, or $\frac{3}{2}$. This was the interval next employed for simultaneous progressions about the year 800, A. D. A brief specimen of this *diaphony* is presented:




It consists of a series of octaves with the fifths added above the fundamental base. The example sounds crude, almost barbarous to modern ears, and it is one of the numerous failures attending the efforts of theorists to establish a plastic art upon an abstract foundation, to the sacrifice of a higher law than mathematical deduction.

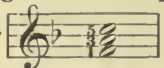
The next progress was in the direction of counterpoint, which became highly developed before harmony was known in distinct chord formations. Major and minor thirds having appeared in the vocal part-music of the 15th and 16th centuries, composers such as Tallis and Viadana had but to include the thirds with the fifths in order to produce major and minor triads. These chords will first engage the student's attention.

By referring to Ex. 25 it will be seen that the harmonics form a perfect major chord.

Select 1, 3, 5 from the series, omitting the duplicates:

Ex. 28.  This is the major chord of *F*, in open position

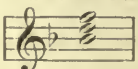
Arrange it in close position for convenience and simplicity:

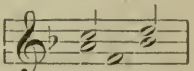
Ex. 29.  The same numbers apply in both instances,

for here 1 is the root, 3 is the third, and 5 is the fifth. The fundamental (or generator) is the root, the tone upon which the chord is founded. As the chord originated in this way, and as the root gives to the combination its name, the author treats this as its first position. An analysis shows that this chord contains a major 3d (*f* to *a*) and a normal 5th (*f* to *c*). This is fundamental enumeration. Componently the chord contains a major and a minor 3d. The results are the same. This is known as a major concord, or as the consonant triad of *F-major*. It is the most important chord, especially when founded upon the tonic, as in the last example.

As this system is based upon the artistic results of actual composition, the author believes all arguments futile that attempt to discredit these results, or that call in question the means employed by inspired composers. We not only accept these results, but find them excellent.

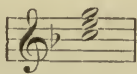
There are but two other major concords to be found within the limits of a scale. The second is founded upon the fourth of the scale, and is known as the Sub-dominant harmony:

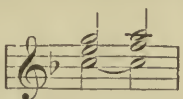
Ex. 30.  It contains the same theoretical intervals as the tonic chord, a major 3d and a normal 5th. The root is *B-flat*, and the 5th is in unison with the key-tone *F*. Therefore there is an im-

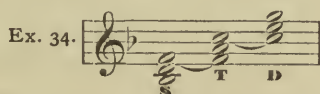
portant connecting link between them, thus: Ex. 31. 

This is true in whatever situation the chords may appear.

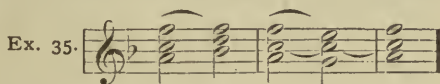
The third major chord is based upon the fifth degree of the scale. It is known as the Dominant harmony, and is constructed in

the same manner as the others: Ex. 32.  Counting from the root C, it contains a major 3d and a normal 5th. The root of this chord is in unison with the 5th of the tonic chord, and the two

are thus connected: Ex. 33.  Some modern theorists present these three fundamental harmonies in this manner:



The ulterior design of this arrangement is to illustrate the hypothesis of an under-scale system, but as the chords can not succeed one another in this manner, it is not adopted here. The regular mode of progression for these harmonies is here given:



Every tone in the scale is embraced in these three chords, and countless numbers of popular pieces contain no other harmonies.

Write the tonic, sub-dominant, and dominant chords in their original positions in at least six other scales.

Chapter IV.

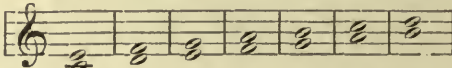
FORMATION OF MINOR CONCORDS.

THE minor concord is generally considered as a derived harmony. Certain writers argue that it has no place among fundamental harmonies, and much discussion has taken place respecting its origin and character. But it would be unprofitable to enter into the controversy here. The minor triad has been freely used by all the great composers, and the only important problem is to ascertain *how* it has been treated.

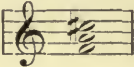
The major scale presents sufficient material for the construction of minor chords.

Though the intervals are all normal or perfect (counting upward from the fundamental), the internal arrangement yields more minor than major thirds:

ma. mi. mi. ma. ma. mi. mi.

Ex. 36. 

Here are four minor, and but three major thirds, for the reason that the seventh triad contains two minor thirds, *b* to *d*, and *d* to *f*.* If a fifth be added to the first six duophonic chords there will result six concords. Three of these will be major and three minor. It must be understood that a normal 5th contains a major and a minor 3d (or *vice versa*), not two major thirds; for this would result in a

discord: Ex. 37.  There are, therefore, three minor chords in every major scale, founded upon the second, third, and sixth degrees, with a 3d and a 5th added above. Write these in their original positions. * * *

The relative minor of any major is situated a small 3d below the latter, and the minor chord will contain a minor and a major 3d, instead of *vice versa*. The connections between the chords appear to better advantage in this form:

Ex. 38. 

The principal points to be observed are :

1. That the relative minors are in each instance located a small 3d below the relative majors, as shown by the base.

2. That two notes of each major chord occur in the relative minor chord. These are notes of connection, as will appear hereafter. By combining the concords which have been discovered, there will be six: three major and three minor. These are to be

* The preponderance of minor thirds in this example is all the more remarkable, considering that the major scale of one octave contains five major, and but two minor thirds.

written with the understanding that the 3d and 5th are to be added above each of the first six degrees of the major scale. * * *

It is the author's purpose, during the first twenty chapters, to employ concords only, and as these must contain a normal 5th and a major or a minor 3d, it is evident that but two species of concords are recognized.

The simplest manner of determining the character of these concords (whether major or minor) is to remember that 1, 3, 5 in every major scale constitute a major concord, and that 1, 3, 5 in every minor scale form a minor concord. The next example shows all the consonant triads in *F-major*:

Ex. 39.

(The student's exercise should correspond to this.) Each chord appears in its first position, with the root at the bottom.

This merely shows the original formation of the various triads, for they can not follow one another in this manner.

The triad founded upon the "leading-tone" does not contain a normal 5th, and therefore can not be a concord:

Ex. 40.

The interval from *e* to *b-flat* is what the author terms an imperfect 5th (generally called diminished), and as all theorists agree that it is not a concord it is excluded from this part of the work.

The names of the minor harmonies are frequently called after the degrees of the scale upon which they are based. These technical terms in the major scale are:

Super-tonic (2), the next above the tonic;

Mediant (3), midway between Tonic and Dominant;

Sub-mediant (6), the same distance below the tonic that the mediant is above it.

Sometimes they are called by terms of relation, as relative minor of the tonic (No. 6 in Ex. 39), relative minor of the sub-dominant (No. 2), and relative minor of the dominant (No. 3).


As relative major and relative minor scales have the same signature it is often convenient to mention them in this manner.

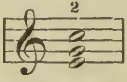
Examples similar to No. 39 should be written in all the major scales and named according to their major or minor character.

Chapter V.


MAJOR AND MINOR CONCORDS RE-ARRANGED.

IN the previous chapters each concord has appeared in its first, or original position. But as every chord has as many positions as tones, or letters, the order of the intervals may now be changed. This can be illustrated more readily by re-arranging the letters which apply to the three tones of a concord.

Beginning with the first position of the *C* chord, the letters will read from the lowest, *C, e, g*: Ex. 41.  Next begin with

the second letter (*e*) placing *C* last: *e, g, C*. This is the second position of the *C* chord; in notation thus: Ex. 42.  As no

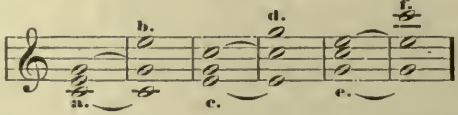
new letters have been added it is still the *C* chord, with the root placed above instead of below.

By placing the 3d uppermost the third position, *g, C, e*, is obtained: Ex. 43.  Each of the six triads is to be re-ar-

ranged in the same manner, in regular order. Elementary students are advised to re-arrange the chords first by means of letters in this

manner: $\left\{ \begin{array}{l} D f a, 1. \\ f a D, 2. \\ a D f, 3. \end{array} \right.$ The figure shows the position and the capital indicates the root.

Other combinations are possible with the three letters of a triad, but these involve open positions, or "dispersed harmonies," which are not to be employed at present. These are produced by inverting the middle interval of each close position:

Ex. 44. 

A, c, and *e* are close positions; *b, d,* and *f* are open positions.* These

*In addition to these the author uses what he terms half-open positions. Dispersed harmony is reserved for Harmonic Counterpoint.

are mentioned here to show the open positions and to caution against their present employment. The word *Inversion* is not used for these re-arranged chords, but is reserved for a future chapter, where the base has another tone than the root.

In re-arranging the six triads always begin with the first position, reading the letters upward as in chord formation. Add no new letters to the three which represent a certain concord, and follow these letters in their regular order, avoiding open positions. Number the positions in each re-arrangement. After completing the exercise by means of letters, a corresponding example must be written in notation. Do not forget that the root of a chord remains the same during the different re-arrangements, and until some new element appears. A simple example will illustrate this fact:

Ex. 45.

G maj. E mi.

Root. Root.

In the first measure the harmony of *G-major* prevails, and *G* is the natural foundation of these tones. In the second measure a new element is introduced, which results in the chord of *E-minor*. The upper parts progress through the different positions of this chord, and *E* remains in the base as root and natural foundation of the upper harmony. The six concords in each major scale should be re-arranged in three close positions, as already explained. After two or three re-arrangements have been made with letters, they can be omitted and the remainder written in notation only.

A complete example is given for comparison :

Ex. 46.

E-flat. F-mi. G-mi. A-flat. B-flat. C-mi.

1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3

Chapter VI.

HARMONIZATION IN THREE PARTS.

HARMONIC Progression, or Chord Succession, is the act of moving from one tone-combination to another, according to certain principles. What chords may follow one another is not so important a question as *how* they shall follow.

It has been observed that from the natural tones of the major scale three major and three minor concords can be formed, each of which has three close positions resulting from re-arrangement.

As a preliminary solution of the problem of Harmonization the author has devised the following method.

The first object is to inquire how many chords may be written beneath each note in the major scale. If the key of *G-major* is selected, begin with the key-tone, *G*.

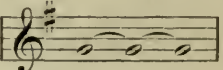
The student should have for reference a chart containing the six triads in *G*, re-arranged in three close positions, which must be consulted in order to answer the necessary questions, thus:

Ex. 47. 

1. Write a treble clef with the signature of *G*, and mark *g* on the second line for illustration. The number of chords that are to accompany this fixed tone depends upon how many of the six concords contain *g*. (It will be sufficient to refer to the first position of each triad, as the re-arrangement in each measure represents the same chord.)

2. How many chords among the six in this key contain *g*?*

3. Write *g* as many times as there are chords containing *g*. These should be tied together, representing a soprano part, which

remains uppermost throughout, thus: Ex. 48a. 

The three triads containing *g* are to be written beneath this fixed note, *g* forming a part of each chord.

* Whether *g* occurs above or below matters not; it is sufficient that *g* occurs in a certain chord.

4. What are the three chords containing *g*?
- [Mention them in regular order by their root names, specifying whether they are major or minor.]
5. What is the first chord containing *g*?
6. What position of this chord has *g* uppermost? (See first measure of chart.)
7. The root-note already appears in the soprano, therefore add the other two notes immediately beneath the stationary note.
8. What is the second chord containing *g*?
9. What position according to the chart has *g* uppermost?
10. Write the remainder of the chord beneath the second tied note.
11. What is the third chord containing *g*?
12. What position shall be used in order to have *g* at the top?
13. Write this beneath the third tied note.

After completing this illustration of the note *g*, draw a double bar, and add capital letters below, representing the root of each chord. * * * Supposing this much to have been accomplished, a complete example is presented for comparison :

Ex. 48b.

2 1 3

G. C. E.*

The numbers included above the chords show the position of each. These progressions are perfectly correct.

The following harmonic progressions have been made: *G* to *C* and from *C* to *E-minor*. *G*, appearing above as part of each chord, serves as connecting link in this chain of harmonies, and at the same time shows that the tonic of *G-major* may be accompanied with any or all of these chords. The first chord appears in its second position, the second chord appears in its first position, and the last chord is in its third position.

As a further result, observe that the stationary upper note is root of the first chord, 5th of the second, and 3d of the last chord.

Compare these observations with Ex. 48b until they are thoroughly comprehended.

Another circumstance to be noted is, that no part moves more than a major or a minor 2d up or down.

The second note of the scale is now selected for illustration.

* The last chord appears an octave lower than in the chart, but the two are to be considered identical.

How many chords in this key contain *a*?

Write second space *a* as many times as there are concords containing that note.

Mention these chords in regular order, and specify whether major or minor.

What is the first chord containing *a*?

What position is required when *a* is uppermost. (See chart.)

Write this chord beneath *a*. What is the second chord containing *a*? What position is required in order to retain *a* at the top?

Write this, including the numbers above, and the capital letters below to indicate the roots. In harmonizing the third note of the scale the formula of questions and the means of answering remain the same.

The tied note should be written as many times as there are chords in which it occurs. This fixed tone is always to be considered as soprano or upper voice, and the chords written beneath it must correspond to the chart. In each instance include the capital letters to show the roots, and number the position of each chord as indicated in the chart.

All this tends to give the student a thorough acquaintanceship with the positions and character of concords, and the author advises that no detail be neglected.

The fourth, fifth, sixth, and seventh notes of the scale are to be illustrated in the same manner. * * *

On account of the imperfect triad being here excluded, it will appear that the 2d, 4th, and 7th degrees of the scale admit but two chords each in their illustration; whereas all the other degrees may be accompanied with three chords. The 7th tone may be harmonized with two chords, though *no consonant triad is founded upon that tone.*

Every tone in the following major scales should be treated in the same manner: *A, B, F, E-flat.*

The last two keys might be attempted without the aid of a chart, provided the student is thoroughly familiar with all the concords in their various re-arrangements.

For the benefit of those who have not the aid of a teacher a completed example is appended, in order that the pupil's work may be compared with the printed example:

Ex. 49.

The musical notation shows a scale in G major on a treble clef staff. The notes are G, A, B, C, D, E, F#, G, A, B, C, D, E, F#, G. Above the notes are syllables: Do, Re, Mi, Fa, Sol, La, Si. Fingerings are indicated by numbers 1, 2, 3. Below the staff are the letters G, C, E, A, D, G, B, E, A, C, G, B, D, A, C, E, B, D.

The syllables above are included to show what notes of the scale are illustrated, and in what manner. This will serve a special purpose hereafter.

This example is not continuous, each measure being considered separately.



PART II.

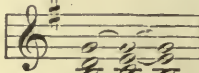
Chapter VII.

THEORY OF HARMONIC PROGRESSION.

CHORD SUCCESSIONS RE-ARRANGED.

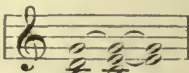
A SOMEWHAT superficial knowledge of chord-progressions having been acquired, a more general and thorough system will now be introduced.

1. Any note occurring in two different chords is called a connecting note.
2. Every connecting note is to be tied, or sung by the same voice-part in both chords.
3. When there are two connecting notes between two chords in progression, both notes are to be tied, or remain stationary:

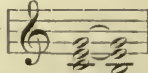
Ex. 50a.  *G* is the connecting link, being common

to the three chords. This note being in the soprano part, the *C* chord must appear in its first position in order to retain the note of connection in the upper part.

Between the *C* and the *E* chords there are two connecting notes, *e* and *g*. As a rule these should be written first:

Ex. 50b.  The note wanting in the last chord is its

fifth, therefore the contralto part descends a minor 2d, from *C* to *b*:

Ex. 51.  Only close positions are to be used at present.

and the voice-parts must not progress up or down more than a 2d.

The first measure from Ex. 49 is selected for re-arrangement in two other positions. The next note of the *G* chord above is *b*, which will become the soprano-part, the chord reading *d, g, b*. In this position the same progressions should be made as in Ex. 50*a*, *i. e.*, from *G* to *C* and *C* to *E*. It would be well to use three treble staves, one above the other. The arrangement of the lowest should be the same as Ex. 49. A brief indication of the design of the first few measures is here given:

3. G C E A D G B E

2. G C E A D G B E

1. G C E A D G B E

Ex. 52. etc.

The progressions at 2 and 3 being the same fundamentally as at 1, are to be accomplished in the same manner; that is, 2 and 3 are re-arrangements of 1.

The stationary note *g*, which was first in the soprano, appears throughout No. 2 in the mezzo-soprano part. Consequently the middle voice continues to sing *g, b* ascends a half step to *c*, while *d* in the contralto ascends a whole step to *e*: Ex. 53.

2.

The next progression is from *C* to *E*. By consulting No. 1 it will be seen that there are two connecting notes, *e* and *g*. In No. 2 these appear in the contralto and mezzo-soprano. Therefore while those notes remain stationary the soprano descends a half step from *c* to *b*, in order to complete the *E-minor* chord:

Ex. 54. 2.

These progressions should now be written

in the upper staff (No. 3). The stationary note, *g*, which first appeared in the soprano, and then in the mezzo-soprano, now appears throughout in the contralto part. Therefore the three chords are to be written above this note.

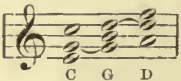
Always write the connecting notes first, and move the other parts as little as possible, without skipping. No. 3 is accomplished in the same manner as was No. 2.

The second measure comes next, and is to be treated in the same manner. The note of connection occurs at 1 in the upper part, at 2 in the middle part, and at 3 in the lower part. By writing the connecting note first and tying it, the remainder of the chord is easily filled in, because *the connecting note fixes the position of each chord*.

Each measure of Ex. 49 is to be re-arranged in two other positions, as indicated. 2 and 3 are duplicates of 1, being the same harmonic progressions in different positions.

It is well at first to include the same capital letters in each corresponding measure in order to show that the chords are the same. (See Ex. 52.)

Elementary harmony students are so inclined to misapply the principles of connecting notes that explanation on this point can not be too explicit. The following progressions show the common

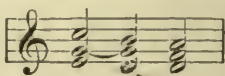
mistake: Ex. 55.  Notwithstanding the ties, the first

note in common, *g*, does not remain in the same voice-part, but skips up to *b*. In the next progression *d* is the connecting link; but it goes to *f*, instead of remaining stationary. To prove the incorrectness of these progressions they will be written in score:

Ex. 56. 

The score for Ex. 56 consists of three staves: Soprano, Mezzo-Soprano, and Contralto. Measure (a) shows a progression from C to G to D. Measure (b) shows a progression from C to G to D. The notes are connected by ties between measures.

(a) is taken directly from the last exercise, and is here forbidden. At (b) the progressions are correct, since the connecting notes remain in the same voice-parts. In a single staff this would appear as

follows: Ex. 57.  Compare this with the exam-

ple in score. The rule for connecting notes is often set aside by composers, and the exceptions will be duly explained in their proper place. It will be well to remember until the restriction is removed that no two chords should occur successively in the same position. The last measure of the re-arrangements is presented for comparison:

Ex. 58.

The image shows three staves of music, labeled 1, 2, and 3 from bottom to top. Each staff contains a series of chords. The chords are connected by lines, indicating a sequence of notes. The notation is in treble clef with a key signature of one sharp (F#). The chords are arranged in a way that demonstrates the movement of notes between them.

The connecting notes being written first and tied, nothing remains but to move *b* down to *a* in each arrangement.

Two or three arrangements in other keys should be made.

Chapter VIII.

HARMONIC PROGRESSION IN FOUR PARTS.

ADDITION OF THE FUNDAMENTAL BASE.

BY adding a base to the previous three-part progressions, four-part harmony will result.

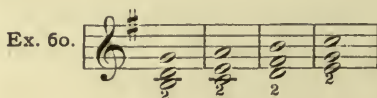
It is both natural and proper to suppose that as the base is the foundation of harmony it shall consist of fundamental, or root, tones. For the present this arrangement will be followed, without regard to the position of the chord. In order to determine the root of a chord arrange it all upon lines, or all in spaces, in which case the root will be below; for root signifies foundation, or generator.

Some experience has already been acquired in this matter; but in addition to this the author advises all music students to become accustomed to the appearance and the sound of chords in their different positions. Chords in their first position consist of two thirds:

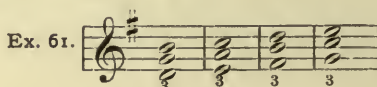
Ex. 59.

The image shows a single staff of music in treble clef with a key signature of one sharp (F#). It contains four chords, each with a '1' written below it, indicating they are in first position. The chords are arranged in a sequence, demonstrating the structure of chords in first position.

The intervals of the second position may be described as a 3d and a 4th :



The third position consists of a 4th and a 3d :



Both the eye and the ear should be trained to distinguish these positions on the instant.

The roots of these last three examples are the same, to wit, *G*, *A*, *B*, *C*. One more preliminary example will suffice :



The tone upon which this chord was founded and which gives it its name is *G*. Therefore, while the treble parts pass through the different positions of the chord, the base remains on the foundation tone, the root.

The student may now write, in the base staff, the roots of the following chords :



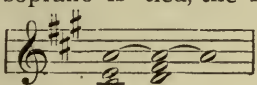
A few instructions are necessary with regard to the management of the base :

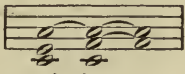
1. It is to be given the root of each chord.
2. It should not skip up or down *more than a 5th*.
3. It must not appear above any of the other parts.

PROGRESSIONS REVERSED.

Taking as a foundation the previous progressions, additional chord combinations will now be given. Begin in *A-major*, and write as many *a*'s as there are chords containing *a*. This exercise will require two staves, treble and base. The first chord containing *a* is to be written with that note uppermost. This *a* is to be a

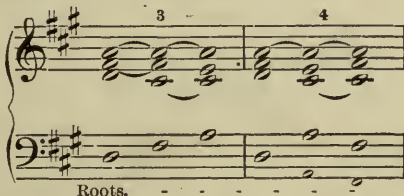
fixed tone during the first example. *D* is the next chord containing *a*. As the soprano is tied, the *D* chord must appear with *a* at the

top: Ex. 64.  The third chord is *F# minor*.

There are two notes in common. Retaining these in the soprano and mezzo-soprano, the contralto descends to *c#* and the chord is complete, for each chord must here appear with *a* at the top. The chords employed are *A*, *D*, and *F-sharp minor*.* In the second combination the order is changed to *A*, *F-sharp*, and *D*, with two connecting tones between the chords: Ex. 65. 

The third is *D*, *F-sharp*, and *A*; the fourth *D*, *A*, *F-sharp*. Two more combinations are possible, beginning each time with the minor chord: *F-sharp*, *A*, *D*, 5; *F-sharp*, *D*, *A*, 6. These are to be written in accordance with the connecting tone principle, keeping *a* uppermost throughout.

The base is now to be written. Simply ascertain the root and write that note beneath each chord which it represents. Two measures are presented for comparison:

Ex. 66. 

(Where there are duplicated bases, either one is correct.)

The next exercise consists in illustrating the second tone of the scale. There are but two chords available for this purpose. Write these with the connecting note (*b*) uppermost. Then reverse the order, *B-minor* to *E*; *E* to *B-minor*.

The third tone of the scale is next in order and admits six combinations, according to the principles already explained.

After the chords are completed, the roots are to be added in the base, making four-part harmony.

In the same manner every tone in the *A-major* scale is to be illustrated and combined.

* The major chord, being more natural than the minor, is presupposed when only the root name is given. But when a minor chord is intended it must be so expressed.

Where a certain tone is common to three chords there will be six combinations. The 2d, 4th, and 7th tones admit but two combinations.

The same exercise should be written in *B-flat* and *A-flat*, adding the root-notes in the base afterwards.

These combinations should also be re-arranged in two other positions, the fundamental part remaining the same.

One example is given as illustration :

Ex. 67.

All these combinations might be performed simultaneously on various instruments with good effect. Observe that the same base accompanies each of the arrangements, 1, 2, or 3.

Chapter IX.

HARMONIZATION OF A GIVEN THEME.


APPLICATION OF THEORETICAL PRINCIPLES.

THE difference between Harmonization and Harmonic Progression should now be understood.

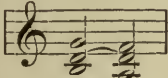
Harmonic Progression relates to the manner of moving from one chord to another, without regard to melody, as in previous examples. The order in which the chords succeed one another depends upon the natural order in which they occur in the chart.

Harmonization presupposes a melody, which is accompanied with certain chords, following the theme in proper succession. In Harmonization one chord may be followed by any other chord, provided they succeed each other correctly. No chord can right-

fully be forbidden to follow another. The only present restriction is, that the student is confined to the use of chords between which there is at least one connecting note. In harmonizing a given melody the progressions must be written according to previous directions, the object being to make the theoretical information practical and available. For instance, if *g* and *a*, in the Key of *C* are melody notes, any chord that contains *g* may accompany the first note and any chord containing *a* may accompany the second note. In other words, the melodic note may be root, third or fifth of the harmony. If the *G* chord is selected to harmonize *g* and the *D* chord to harmonize *a*, the question arises, do these chords succeed each

other properly? See example: Ex. 68.  Between

the two chords there is a note in common, *d*, but this connecting note does not remain in the same voice-part. In skipping from *d* to *f*, it compels the contralto to skip from *b* to *d*. This error is caused by the ascending melody; whereas, if the progression from the *G* chord to the *D* chord is correctly written, the voices will descend:

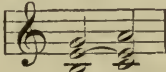
Ex. 69.  (Compare this with the previous example.)

The student should understand that he is not forbidden to go from the *G* to the *D* chord, unless the movement of the melody is contrary to the correct progression of the chord.

Another harmonization is therefore made. Select the *C* and *F* chords as accompaniment:

Ex. 70.  This is correct.

The minor chords of *E* and *A* would be equally correct:

Ex. 71. 

A simple diatonic theme will now be presented for harmonization in accordance with present information. This theme is continuous, and there must be at least one connecting note throughout. The note of connection may occur in any of the upper parts, soprano,

mezzo-soprano, or contralto, but every chord must be connected in some manner with its antecedent and consequent :

Ex. 72.

To facilitate the work of harmonization it will be necessary to prepare a chart of the concords in *B-flat*, arranged under each of the seven notes of the scale :

CHART FOR B-FLAT.

Ex. 73.

The first note in the theme is tonic.

According to the chart there is a choice of three chords in harmonizing this note, but owing to the direction of the theme, only one will serve the present purpose.

The next note is *si*. (See last measure of chart.) Either of the chords (*D* or *F*) may follow the first chord; but as there must be a connection between the second and third, as well as between the first and second chords, only one of the chords at *si* can be used.

The harmonization of *la* will determine the correctness of the second chord.

Care must be taken to write the connecting notes in the same voice-parts.

If the first three chords are correctly written there will be no difficulty in harmonizing the two following, for whatever is correct in descending will be correct in ascending, the order being merely reversed.

Whenever a note is tied in the melody, the harmony must change to some other chord containing that note. In such instances the melody is the connection. The tied notes in the soprano part make it possible to ascend without transgressing present rules.

After completing the upper parts, the base is to be added by giving to that part the root of each chord, whatever may be its position.
* * *

(The harmonized theme may be found in the key, but this must not be consulted except for comparison, after the student's example has been completed.)

* The syllables in the theme correspond to those in the chart.

Every example should be performed upon a piano or organ in moderate tempo, and with sufficient distinctness to produce the full harmonic effect, care being exercised to sound the tones of each chord simultaneously. Such practice improves the student in sight-reading, and what is more important, enables him to judge the effect of chord progressions, and eventually to comprehend harmonic successions by sight alone.

The importance of these auricular exercises has already been set forth in the author's Complete Musical Analysis as a necessary feature of all thorough musical education.

Notes in the theme marked + admit a choice of harmony. For instance, the 6th chord may be either *G-minor*, or *E-flat*. It is not well to burden the student's mind with cadence forms when the only object at present is to acquire the ability to handle chords correctly.

Therefore if a pupil ends the harmonization like this:

Ex. 74.

Example 74 shows a two-staff musical exercise. The treble staff contains three chords: a triad of G4, B4, and D5 (marked with a plus sign), followed by a triad of G4, B4, and D5 (marked with a plus sign), and finally a triad of G4, B4, and D5 (marked with a plus sign). The bass staff contains three notes: G3, B2, and D3, which are the bass notes of the chords above. The exercise concludes with a regular cadence.

it may be considered as correct as an example ending with a regular cadence, thus:

Ex. 75.

Example 75 shows a two-staff musical exercise. The treble staff contains three chords: a triad of G4, B4, and D5 (marked with a plus sign), followed by a triad of G4, B4, and D5 (marked with a plus sign), and finally a triad of G4, B4, and D5 (marked with a plus sign). The bass staff contains three notes: G3, B2, and D3, which are the bass notes of the chords above. The exercise concludes with a regular cadence.

The theme for harmonization is to be transposed into *C*, *D*, and *A*. In each instance a chart should be prepared as a means of supplying the accompanying harmonies. No two chords are to appear in succession in the same position, and the base must not skip more than a 5th.

For a separate lesson a more extended theme is presented, to be harmonized according to the same principles and directions. This also is to be transposed.

It would be well in writing these examples not to exceed the compass of four octaves:

Ex. 76.

Example 76 shows a two-staff musical exercise. The bass staff contains a single note G2, and the treble staff contains a single note G7. The range between G2 and G7 is four octaves. The exercise is marked with a double bar line and a fermata above the G7 note.

THEME FOR HARMONIZATION.

Ex. 77.

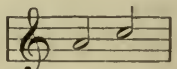
Chapter X.

HARMONIZATION OF MELODIC SKIPS OF A THIRD.

HERETOFORE each voice-part has moved alphabetically. Melodic skips of a third will now be introduced.

The directions are simple.

A skip of a 3d, major or minor, may be harmonized with any chord containing both notes of the skip, either ascending or descending.

Suppose these tones occur in a melody: Ex. 78. 

Any chord containing *a* and *c* will accompany this interval, both tones being a part of the same chord. Mention chords containing *a* and *c*.

The result is merely a re-arrangement of any chord containing *a* and *c*.

Two harmonizations should be attempted. * * *

The simplest plan is to consider both tones of the skip as parts of one chord, the fundamental remaining unchanged.

Any chord written in its different positions will illustrate this:

Ex. 79.

None of the previous directions are violated, as the harmony remains the same throughout.

The melodic notes *g*, *b*, *d*, indicate the chord of *G*, for that chord is composed of those notes. As only one chord is involved in the harmonization of a skip, the rule for connecting notes does not apply.

The development of Ex. 78 is presented for comparison, preparatory to the harmonization of a theme containing skips:

Ex. 80.

Both examples are correct. The notes of the skip are the 3d and 5th of the *F* chord and root and 3d of the *A-minor* chord.

The pupil should attempt to harmonize the following theme in skips, according to the directions contained in this chapter:

THEME IN SKIPS.

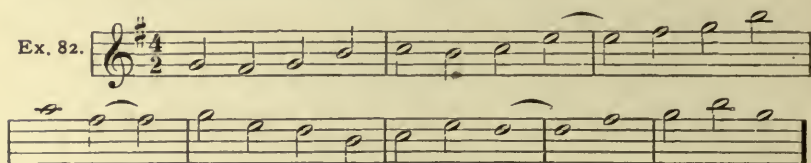
Ex. 81.

The first skip must be accompanied with a chord containing both tones of the skip (*E* and *g*). At the second *g* the chord is to be changed to one containing *g* and *b*. Therefore the change of harmony must have a connecting note, and be written according to previous rules of chord progression. The two *g*'s above serve as connecting notes. The entire second measure is to be accompanied with the same chord, because the harmony can not be changed during the progress of a skip.

G and *a* in the third measure are to be accompanied with two chords having a connecting tone between them and in the same voice-part, this being a regular harmonic progression. *A*, descending to *f*, is to be accompanied by one chord, and *f* descending to *d*, by another chord. *D* and *b* require still a different chord (containing those tones), and from *b* to *c* at the close the harmony changes and there must be a connecting note.

The chart for *C* may be consulted in determining how many chords will accompany each tone of the scale, and what chords embrace the tones of a skip, either ascending or descending. Remem-

ber that both tones of a skip must be harmonized with the same chord. The accompanying chord in such cases merely changes its position, not its name or root. The harmonization of the last theme will be found in the key. Transpose the skipping theme into *B-flat* and *D-flat* and harmonize accordingly. A theme embracing every concord in the scale is presented for harmonization.



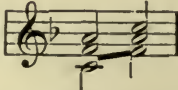
Whenever the melody moves alphabetically the harmony changes, and there must be a note of connection. Where the melody skips, the same harmony is to be continued.

Transpose this theme into *A* and *F*.

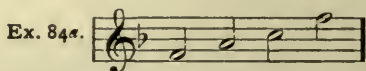
Chapter XI.

HARMONIZATION OF MELODIC SKIPS OF A FOURTH.

IN changing the position of a chord, a skip of a 4th will appear in

some voice-part: Ex. 83.  The soprano and mezzo-

soprano skip a 3d each, but the contralto leaps a 4th. The notes of a chord written melodically will illustrate this:



These notes comprise and consequently indicate the *F* chord, from which we may conclude that *F* is the accompanying harmony :

Ex. 84^b.

The image shows two staves of music. The upper staff is in treble clef and contains four chords: a triad of G4, B4, D5; a dyad of G4, B4; a dyad of G4, D5; and a triad of G4, B4, D5. The lower staff is in bass clef and contains two notes: G2 and B2.

The skip of a 4th occurs first in the mezzo-soprano, then in the contralto, and finally in the soprano part.

Directions.

The chord that naturally harmonizes the skip of a 4th either ascending or descending, contains both tones of the skip. The student should examine the six concords in *G* in order to discover

what chord contains this interval: Ex. 85. The con-

cord containing *b* and *e* forms the accompaniment, the base remaining unchanged. The accompanying harmony merely assumes different positions. The following short, continuous theme, proceeding mostly by leaps of a 4th, is to be harmonized as already explained:

Ex. 86.

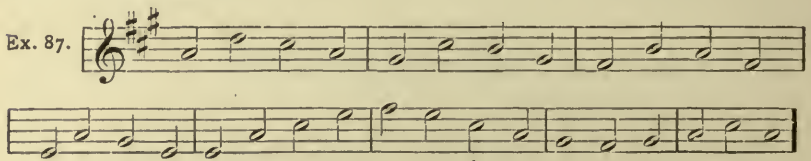
The image shows a single staff of music in treble clef. It contains a sequence of notes: G4, B4, D5, G4, B4, D5, G4, B4, D5, G4, B4, D5. There are slurs over the first two notes and the last two notes.

There is scarcely a possibility of failure in harmonizing this correctly, provided the previous explanations have been read attentively. The first two notes of the theme constitute two thirds of the accompanying chord. The next skip, *a* to *d*, is similarly indicated. When there is no skip, the harmony changes. In such instances the connecting-note principle must be applied.

Transpose the theme into *G* and *A-flat* and harmonize in four parts. * * *

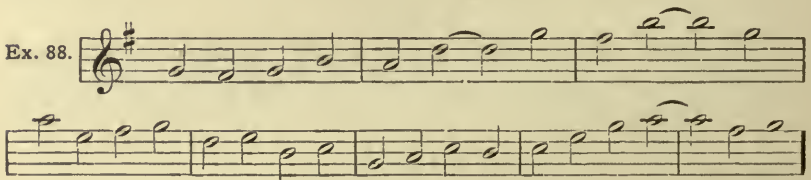
The following melody consists of a sequence of thirds and fourths and should be so harmonized as to include every concord in the scale

of *A*. When the melody moves alphabetically, the rules of progression are to be observed :



Transpose into *B-flat* and *C*.

The next theme is similar to the others, and presents no new difficulties :



No other melodies are to be harmonized at present, as each theme has been expressly contrived for the situation in which it occurs, in order to illustrate each new subject without violating the directions prescribed for the student's guidance.

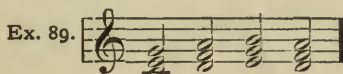


PART III.

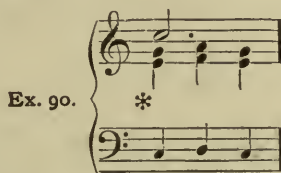
Chapter XII.

FORBIDDEN PROGRESSIONS.

THIS is a somewhat ungracious subject to discuss, for many of the forbidden progressions are freely used by modern composers. One of the most objectionable of these is the parallel movement by fifths. This prohibition does not apply to the appearance of a 5th in each chord, but to the parallel movement of any two voice-parts, at the distance of a 5th, thus:



The contralto and soprano parts move in parallel directions at the distance of a 5th. All such progressions are forbidden, and rightly so, for the effect is certainly abrupt and unsatisfactory. Parallel 5ths between the base and mezzo-soprano parts are here shown:



These are not so prominent on account of the holding-tone above, but they are false and must be condemned.

* The interval here called a 5th is really a 12th, but they are theoretically synonymous. The same may be said of octaves, which are so called even though they are two or three octaves apart.

Consecutive 5ths are liable to occur between any two parts, and these inaccuracies must be detected. In the next example the base and contralto parts move at the distance of a 5th, and the result is a grammatical error :

Ex. 91.

Example 91 shows two staves of music. The upper staff is in treble clef and the lower staff is in bass clef. Both staves have a key signature of one flat (B-flat major or D minor). The upper staff contains a sequence of chords: a triad of G4, B4, D5 (G major), followed by a dyad of G4 and B4 (G major), and then a dyad of B4 and D5 (G major). The lower staff contains a sequence of notes: G3, B3, D4, G4, B4, D5, G4, B4, D5. The interval between the G4 in the upper staff and the G4 in the lower staff is a perfect fifth.

Though there are situations in which this might be used with impunity, it is better for the student to avoid all these transgressions until full independence from teacher and text-book has been achieved.

As almost every chord contains a 5th, it is only necessary to observe that the two voice-parts which produce a 5th do not move together at the same distance. In the following example there is a 5th in every chord, yet no false progression appears :

Ex. 92.

Example 92 shows two staves of music. The upper staff is in treble clef and the lower staff is in bass clef. Both staves have a key signature of one sharp (F# major or D minor). The upper staff contains a sequence of chords: a triad of F#4, A4, C#5 (F# major), followed by a dyad of F#4 and A4 (F# major), and then a dyad of A4 and C#5 (F# major). The lower staff contains a sequence of notes: F#3, A3, C#4, F#4, A4, C#5, F#4, A4, C#5. The interval between the F#4 in the upper staff and the F#4 in the lower staff is a perfect fifth.

Each chord should be examined in order to locate the 5ths, and to observe the fact that no two parts move by parallel 5ths.

By observing the previous directions no false progressions will result. For this reason the author has said little about these restrictions.

Another parallel movement forbidden by theorists is that of the octave, or 15th.

Such an example is presented :

Ex. 93.

Example 93 shows two staves of music. The upper staff is in treble clef and the lower staff is in bass clef. Both staves have a key signature of one flat (B-flat major or D minor). The upper staff contains a sequence of chords: a triad of G4, B4, D5 (G major), followed by a dyad of G4 and B4 (G major), and then a dyad of B4 and D5 (G major). The lower staff contains a sequence of notes: G3, B3, D4, G4, B4, D5, G4, B4, D5. The interval between the G4 in the upper staff and the G4 in the lower staff is a perfect fifth.

The parallel lines show the consecutive octaves between the base and one of the upper parts. The progression from the *F*-major to the *G*-minor chords, in the first measure, is especially objectionable, as it involves parallel 5ths in addition to the octaves. Such defects usually result from a similar movement of the parts, causing a 5th or an octave to move to another 5th or octave. These errors may be avoided by employing contrary or oblique motion. Following are examples of these three kinds of movement:

Ex. 94.

Parallel. Contrary. Oblique.

The image shows three measures of music. The first measure is labeled 'Parallel' and shows the bass line moving up from G2 to G3 while the soprano line moves up from F4 to F5. The second measure is labeled 'Contrary' and shows the bass line moving up from G2 to A2 while the soprano line moves down from F4 to E4. The third measure is labeled 'Oblique' and shows the bass line moving up from G2 to G3 while the soprano line moves down from F4 to E4.

The first example is bad; the other two are good. Progressions like these may be included among oblique movements:

Ex. 95.

a b c

The image shows three measures of music. The first measure is labeled 'a' and shows the bass line moving up from G2 to A2 while the soprano line moves down from F4 to E4. The second measure is labeled 'b' and shows the bass line moving up from A2 to B2 while the soprano line moves down from E4 to D4. The third measure is labeled 'c' and shows the bass line moving up from B2 to C3 while the soprano line moves down from D4 to C4.

Though the parts apparently move in the same direction, the connecting note prevents false progressions. The base in such instances may descend as at (a) and (b), or ascend as at (c).

With a view to avoiding ungrammatical progressions the student should observe particularly that the parts producing a 5th or octave do not move the same distance in a parallel direction:

Ex. 96.

The image shows two measures of music. The first measure shows the bass line moving up from G2 to G3 while the soprano line moves up from F4 to F5. The second measure shows the bass line moving up from G2 to A2 while the soprano line moves up from F5 to F6.

The base and soprano are an octave (or 15th) apart in the *C* chord; but in the *G* chord they are a 10th (or 17th) apart. In other words, the base part descends a 4th, the soprano a 2d. The connecting note

in the mezzo-soprano gives to the upper parts the effect of oblique motion, and in such instances the base may ascend a 5th or descend a 4th.

A distinction is to be made between consecutive octaves and unisons. The following are not intended to come within the scope of prohibited passages :

Ex. 97.

The image shows two systems of musical notation, labeled 'a.' and 'b.'. Both systems are in G minor (one flat) and 2/4 time. System 'a.' consists of a treble clef staff with chords and a bass clef staff with a single line of notes. System 'b.' consists of a treble clef staff with a single line of notes and a bass clef staff with chords.

At (a) the base is doubled below ; at (b) the melody is doubled above.

These are mere re-enforcements or duplications of an extreme part, and as there is no harmony between these unisons they are perfectly correct.

As the other proscribed relations and progressions are not liable to occur at present, their discussion is left to a future chapter.

The errors in the following exercise should be corrected, and the theme may be altered in order to keep within the limits of present information. Preserve the same base :

Ex. 98.

The image shows two systems of musical notation, labeled 'Ex. 98.' and an unlabeled system. Both systems are in G minor (one flat) and 2/4 time. The first system consists of a treble clef staff with chords and a bass clef staff with a single line of notes. The second system consists of a treble clef staff with a single line of notes and a bass clef staff with chords.

Chapter XIII.

THIRTY HARMONIC PROGRESSIONS IN A
MAJOR KEY, WITH AND WITHOUT
CONNECTING NOTES.

OUR previous harmonic progressions have been confined to chords having at least one note in common. But as these exclude all such chord movements as from *C* to *D* and *D* to *E*, our field of operations must be enlarged so as to include all combinations in the key. The object is to make every possible progression; and to do this, it is necessary to have a systematic method for determining the order of these combinations. We begin with the *C* chord and progress from this to each of the other five concords in regular order. Next, begin with the *D* chord and move to every other chord according to the Harmonic Index:

HARMONIC INDEX.

Ex. 99.

The diagram shows 30 numbered harmonic progressions in a single staff, starting from a C chord (1) and moving through various chords in a systematic order. The progressions are numbered 1 through 30, with some chords having connecting notes indicated by slurs.

This diagram shows the order of the progressions fundamentally. Each base note is a root, and represents the concord founded upon that note. The theory will now be explained.

There is no note in the *C* chord that occurs in the *D* chord. They can not succeed each other in this manner:

Ex. 100.

The diagram shows a C chord in the treble clef and a D chord in the bass clef, illustrating that they cannot succeed each other in this manner.

for it involves both parallel fifths and octaves.

As the base is to move from root to root, the upper parts must be altered. Contrary movement will obviate the difficulty. Begin again with the *C* chord, with the base as a foundation:

Ex. 101.

The first note of the *D* chord below *c* (in the soprano) is *a*. This will indicate that the *D* chord is to appear with *a* uppermost. The note of the *D* chord next below *g* is *f*, and next below *e* is *d*.

The progression will thus appear in correct form:

Ex. 102.

The base moves from root to root, while the *e* and *g* descend to *d* and *f*. This is not unusual:

Ex. 103.

The interval of a fifth in the first chord is followed by a third in the second chord and a false progression is thus avoided. But the skip from *c* to *a* in the upper part must be explained as the result of necessity. It prevents consecutive octaves and supplies the remaining note of the *D* chord. (See examples 100 and 102.)

Another ameliorating circumstance is this: all the other voice-parts move alphabetically. Even the base, which has hitherto skipped a third, fourth or fifth, here moves but a second. The duplicated root-note is therefore the only one that skips.

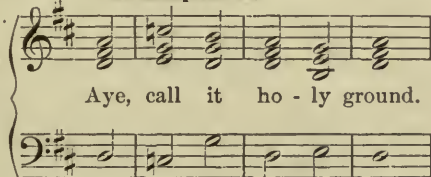
From the foregoing may be deduced the principle that when there is no connecting note between two chords, the treble parts must move in an opposite direction to that of the base. To be still more explicit, when the base *ascends* a *second* the other parts *descend*; and when the base *descends* a *second* the other parts must *ascend*.

When the base ascends or descends fundamentally a major or a minor second there will be no connecting note between the two chords. This is always true of concords.

Note. Some writers consider the progression in Ex. 102 incorrect on account of "hidden fifths" between the soprano and contralto parts. These may be avoided by resolving the *e* up to *f*, instead of down to *d*. But composers seldom concern themselves with these prohibitions, as the following extract shows:

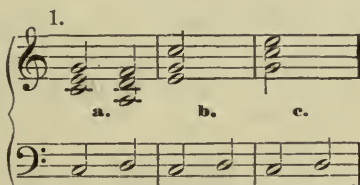
(From the *Landing of the Pilgrims*. By G. W. Chadwick.)

Unaccompanied.

Ex. 104. 

The author has, therefore, no hesitancy in recommending the progression as given in Ex. 102.

Each progression is to be noted in three positions, the base being the same:

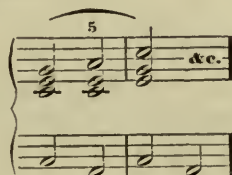
Ex. 105. 

Complete the example. This is the first progression. * * *

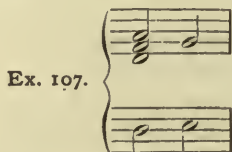
No. 2 is from *C* to *E*. This is not new, for there are two connecting links. These are to be retained in the same voice-parts as formerly. The intention is to supplement, not to contradict any of our previously acquired principles.

Write three arrangements of this progression and number it 2. No. 3 is from *C* to *F*.

Each progression is to be arranged in three positions and numbered according to the index. In the fifth progression the base should descend a third rather than ascend a sixth. The upper parts present no new difficulties:

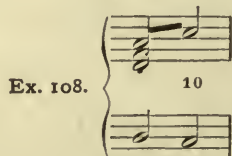
Ex. 106. 

These are all the progressions that can be made from the initial chord; therefore begin with *D*, No. 6. Here the base moves up a 2d, and there is no note in common. Use the *D* chord in its first position and write the base, *D* to *E*. The soprano moves to that note of the *E* chord next below the 5th of the *D* chord. This fixes the position of the second chord:



Therefore *f* goes to *e*, while *d* skips to *b*, the 5th of the *E* chord. Write this in three positions. In progressing from *D* to *F*, *D* to *G*, and *D* to *A*, no obstacles will appear. The imperfect triad on *B* being omitted, the next progression is from *D* to *C*.

Do not move the base-part up a seventh, but down a second, so as not to violate the rule, that the base must not skip *more than a fifth*. As the base descends a second the other parts must *ascend*. The soprano note *a* goes up to that interval of the *C* chord nearest above *a*. In other words, we reverse the first progression, *C* to *D*. After writing so much, it is best to indicate the soprano part first, because this will decide the position of the second chord:



After this the other notes are easily supplied. Include the re-arrangements. For the eleventh progression see index. Write the base, then the first position of the *E* chord. The soprano part of the second chord is to be indicated next and the middle parts afterwards, as heretofore explained.

The fundamental order in which the chords are combined into thirty progressions is so plainly shown by the index that the student can accomplish this task without further aid than the recapitulation of our few governing principles.

Chord progressions may be divided into two classes:

- 1st, with connecting notes;
- 2d, without connecting notes.

The first includes those progressions in which the base moves up or down a 3d, 4th, or 5th.

Whenever the base moves up or down a 2d (whole or half step) there will be no connecting note. Contrary movement is then imperative.

When there is a note in common, the base may move in similar or contrary motion. The only exception to this is, that a leap of a 6th in the base part should not be substituted for that of a 3d. The latter is preferable. Only one note of a chord can skip when the harmony changes; the others must move by regular degrees. In harmonizing skips, all the parts leap except the base, which remains stationary, as the harmony does not change. It would also be well to remember for the present that no two chords follow each other in the same position, and the base is to be given the root of each chord.

These directions are plain, and if followed, all difficulties will be overcome. At least such is the author's experience in teaching this system during the past twenty-one years.

The thirty progressions here outlined are all that can be made from the six concords in a normal scale. Then by re-arranging each progression in two other positions we literally exhaust the subject.

Those who expect to become good harmonists should write out these thirty progressions in at least six other major scales, namely: *D*, *E*, *F-sharp*, *B-flat*, *A-flat*, and *G-flat*. Each exercise is to be performed after it is written. The solution of this lesson will be found in the Key.

Chapter XIV.

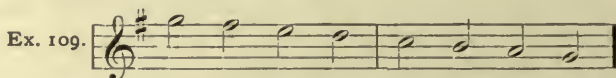
HARMONIZATION OF THEMES WITH AND WITHOUT CONNECTING NOTES.

CHORD RELATIONS.

THE student is now prepared to harmonize any melody, provided it contains no appoggiaturas, passing-notes, or chromatic alterations. So long as the melody note is considered as part of a concord, it will present no difficulties.

Melodic skips of a 3d and 4th are also understood. To be precise, the student is familiar with the thirty harmonic progressions in every key, each in three positions. This, together with the skips, will answer all present purposes.

Begin with the descending scale :



As our material consists of but six chords, the chart should be dispensed with. Endeavor to perceive, mentally, the chords that accompany each note and the three close positions of each chord. Then choose that one which will form a correct progression. The example is to be harmonized with unrelated, as well as with related chords; *i. e.*, with and without connecting notes. Begin with any chord containing *g*; the *G-major* or *E-minor* chord will, however, be preferable. When there is a connecting note, keep it in the same voice-part; when the chords are unrelated, move the upper parts in a contrary direction to that of the base. Begin and end with any chord that forms a correct progression with its consequent and antecedent. * * *

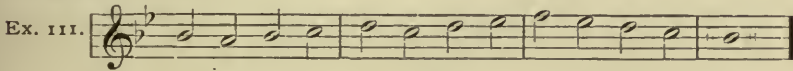
As it is impossible to write a progression here not already written in the previous chapter, the author concludes that the harmonization of Ex. 109 will be successfully accomplished. When it is completed the same melodic notes should be copied, and another entirely different arrangement made. Every corresponding-note of the scale passage is to be accompanied with a different chord. A brief preparatory exercise will serve as illustration :

Ex. 110.

Both examples are equally correct. That some of these chord progressions sound inharmonious is merely because we have become accustomed to certain cadence-harmonies. It is certainly no fault of the progressions, for they have been used by all classic composers. Our present object, however, is to acquire the art of managing chords correctly and systematically. After this is accomplished the student

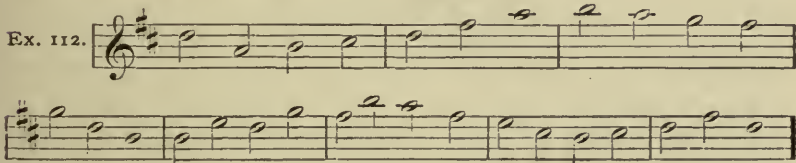
may harmonize a theme with those chords that sound the most agreeable, or that represent a melodic idea to the best advantage. The two harmonizations of Ex. 109 will be found in the Key.

A section of melody is presented for harmonization in two different ways :



It might be better to harmonize one note at a time in each example, in order to produce these different arrangements readily. When completed, each copy should be examined critically for the purpose of detecting possible errors. Transpose the last example into *A*, *C*, *D*, and *E-flat*.

This part of the chapter closes with a more extended theme, which is designed to include all the principles of progression and harmonization thus far explained. It should begin and end in *D* :

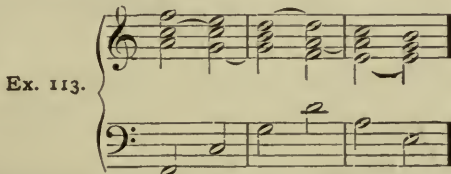


Transpose to *B* and *E*.

CHORD RELATIONS.

Attention is here directed to the natural connection and relation of consonant chords in a given scale.

In proceeding by fifths there will always be one connecting note in the upper part, which will appear alternately as 5th of one chord and root of another :



The progression of the base from *d* down a fourth to *a* is the same in harmonic effect as the upper fifth. This latter would cause the base to ascend too high, and the lower fourth is therefore substituted. These progressions by fifths have a receding tendency, as from sub-dominant to tonic.

The progression by fourths is the same in regard to connection of tones:

Ex. 114.

In both instances there is one connecting link throughout. But the effect of this latter is almost opposite to that of the former, for in place of a receding tendency this has a progressive, advancing tendency. Compare (a) with (b) in the following example:

Ex. 115.

One is mild and undecided, the other is strong and of a transitional nature.

The progressions by thirds present the greatest number of tone connections. This is true in ascending and in descending movements. The student should supply the upper harmony in the two succeeding examples:

Ex. 116.

Roots.

The descending movement will result in this way: dominant and relative minor; tonic and relative minor; sub-dominant and relative minor. Also add the upper harmony to this ascending progression by thirds:

Ex. 117.

Roots.

In both examples the base notes represent roots, therefore the chords are added according to the principles of harmonic progression. In each example there will be two connecting notes, so long as the relation of parallel thirds is maintained. In the last example the former order as to major and relative minor is reversed, and each

minor chord is followed by its relative major. The ascending movement is more natural and progressive. The parallel progressions are intimately related and connected, and in a future chapter the principles of chord relation will be applied to keys and modes as well as to chords and progressions.

With regard to progressions by seconds they have no actual connection, and no apparent relationship with one another, excepting by means of an intervening chord. This may be observed here by considering each root as a tonic, and associating each chord with the signature of that key:

Ex. 118.

The musical notation for Example 118 consists of two staves, treble and bass clef, with a key signature of two sharps (F# and C#). The treble staff contains four chords: G major (G-B-D), A minor (A-C-E), B minor (B-D-F), and G major (G-B-D). The bass staff contains four notes: G, A, B, and G, corresponding to the roots of the chords above.

The first (*B-minor*) has two sharps; the second has four sharps; the third two, and the fourth has four. But where smoothness and connection are not desirable, these progressions serve a purpose, for they are bold and disconnected. The next exercise begins and ends in *A-major* and the student may add the proper harmonies, considering each base as a root:

Ex. 119.

The musical notation for Example 119 is on a single bass clef staff with a key signature of two sharps (F# and C#). The notes are G, A, B, G, F#, E, D, C, B, A, G. The chords are G major (G-B-D), A minor (A-C-E), B minor (B-D-F), G major (G-B-D), F# minor (F#-A-C), E minor (E-G-B), D minor (D-F-A), C major (C-E-G), B minor (B-D-F), and G major (G-B-D).

From the foregoing we may deduce the following simple formula: When the base moves a fourth or a fifth up or down, there will be one connecting note above; when the base moves a major or a minor third up or down, there will be two connecting notes; when the base ascends or descends a whole or a half step, there will be no connecting link between the chords, and the upper harmony must in such instances move in an opposite direction. In all the elementary exercises the root of each chord is to appear in the base as fundamental.

As a sixth is an inversion of a third it is not included among these fundamental progressions, because the skip of a third in the base is nearly always preferable to the skip of a sixth.

Transpose and re-arrange the last seven examples until the principle is well understood. Also listen to the different effects of these various progressions.

Chapter XV.

ANOTHER METHOD OF HARMONIZING MELODIC
SKIPS OF A THIRD.

IN progressing from one chord to another between which there was no connecting note, it was observed that a certain part of the upper chord made a skip of a third:

Ex. 120.

From this may be deduced the following conclusions:

1. The first note of the skip is the fifth of the first chord, and the second note of the skip becomes the root-note (or octave) of the second chord.

2. In a descending skip the above order is reversed; *i. e.*, the root-note of the first chord (in the melody) descends a third to the fifth of the second chord.

3. In an ascending skip the base part descends a second; in a descending skip it moves up a second.

Therefore the two methods of harmonizing a skip of a third are as follows:

1. With any chord that contains both notes of the skip.
2. With two different chords, containing no connecting note between them. Put into practical operation the latter method first:

Ex. 121.

The first note is to be considered as fifth of the first chord; the second note of the skip is the octave of the second chord. Hence the figures above the melodic notes.

(Write the chords beneath these notes.) * * *

If c is the fifth of a chord, F must be the root, five degrees below. The eighth or fifteenth degree below E is the root of the second chord. See complete example :

Ex. 122.

This progression was made in the twentieth combination of the thirty harmonic progressions. But in that case it was written *harmonically*, from the base part; here it occurs *melodically*, the soprano part having the skip.

By reversing the above progression, the harmonization of the descending skip of a third results :

Ex. 123.

The figures and movement of the parts are here directly reversed. (Compare Exs. 122 and 123.) Both these melodic skips might be harmonized with the *A-minor* or with the *C-major* triads. For the present, harmonize these skips with unconnected chords as indicated by Exs. 122 and 123 :

Ex. 124.

The figures refer to the roots of the chords below. 3 signifies that the melodic note is third of the accompanying chord. The example is to be completed in four parts. * * *

When the theme skips a third there is (in this example) no connecting note between the two upper chords. The examples should be examined attentively, and every peculiarity of this kind observed.

Transpose the theme into *D* and *B-flat* major, and harmonize accordingly. * * *

The next is a more complete example, and is to be harmonized without connecting notes, excepting where the melody moves alphabetically :

Ex. 125.

The last measure is to consist of the tonic harmony.

Transpose the melody into *D-flat* and *B* and harmonize similarly.

* * *

There are now two methods for harmonizing melodic skips of a third. It will be well to put these into practice before concluding this chapter. Which ever of these methods is employed in a certain passage will depend upon the nature of the sentiment, or the fancy of the composer. For instance, the notes *c* and *e* may be accompanied in three different ways:

Ex. 126.

The first arrangement (a) is bright; (b) is rather sombre; (c) is disconnected and somewhat bold. All are correct.

Transpose this example into *B-flat* and *D*. The following motive may be harmonized in different ways:

Ex. 127.

Examine and transpose the example. * * *

The skip of a fourth can be harmonized in but one way: with that chord which contains both notes of the skip, as explained.

A theme will now be presented in which the skips of a third are to be harmonized according to the different methods already set forth:

Ex. 128.



Pursue, as much as possible, the plan adopted in Ex. 127.

The theory thus far developed embraces the whole *modus operandi* of handling chords. From these principles there will be no deviation before reaching the chapter entitled Unruly Progressions. Even these, however, will not detract from the value of the theory of chord progression and harmonization.

Transpose the last example into various keys.



PART IV.

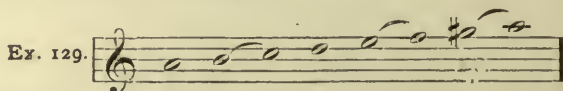
Chapter XVI.

THE HARMONIC MINOR SCALE AND ITS
CONSONANT TRIADS.

The minor scale was probably so called on account of the third and sixth, which intervals are smaller than in the major.

There are several species of minor scale, all serving a purpose in musical composition. Only the harmonic form will now be examined.

Modern tonality requires that the seventh of every normal scale shall be a minor 2d below the tonic, as a *leading tone*. Beginning upon *A*, the result is as follows:



The chief peculiarities of this scale are: three half steps and one step of an augmented 2d, 6 to 7.* This is true so long as we remain exclusively in the minor key.

An elementary view of the harmonic possibilities of this scale will now be given.

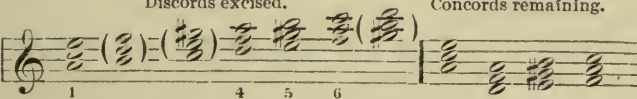
Write a triad upon each note of the scale, being careful to use only the notes of the scale already quoted. Then examine each triad in order to determine the concords. (A consonant triad must contain a normal 5th and a major or a minor 3d.)

Every triad that is not consonant should be excised, leaving the concords. * * *

The second and seventh triads are imperfect and the third is augmented. An example of this is presented for comparison:

*Any major or normal interval becomes "augmented" when enlarged by a chromatic step.

Discords excised. Concords remaining.

Ex. 130.  Musical notation for Ex. 130. It shows a treble clef staff with six measures. The first measure is labeled '1' and contains a chord. The next three measures are labeled '4', '5', and '6' and contain chords. The last two measures are labeled 'Concords remaining' and contain chords. Above the first three measures, the text 'Discords excised.' is written, with a large 'X' over the first three measures. Above the last two measures, the text 'Concords remaining.' is written.

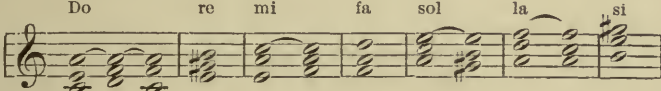
These concords are composed of the natural notes of the harmonic minor scale. Observe that *g-natural* does not appear. These four concords are known by the following names :

1. Chord of the Tonic, founded upon the key-tone.
4. Chord of the Sub-dominant, founded upon the 4th above, or the 5th below the tonic.
5. Chord of the Dominant, so called because it dominates or controls the key. In major and minor this chord is founded upon the fifth natural degree.
6. Chord of the Sub-mediant.

From these four concords a chart is to be made, showing how many chords will accompany each note of the scale.

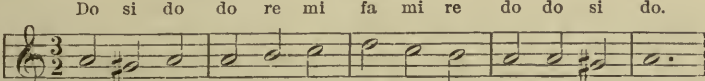
Note. In founding chords, write a 3d and 5th above the foundation-note, or root, but in preparing a chart or harmonizing a theme, the chords are written below the melodic notes. * * *

This diagram is presented for comparison :

Ex. 131.  Musical notation for Ex. 131. It shows a treble clef staff with seven measures. Above the staff, the notes 'Do', 're', 'mi', 'fa', 'sol', 'la', and 'si' are written. Below the staff, chords are written for each note. The chords are: Do (C), re (D), mi (E), fa (F), sol (G), la (A), and si (B). The chords are written in a way that they are all triads.

A short theme can now be harmonized, exclusively in this minor scale. The fact that three notes of the scale can be accompanied with only one chord each, leaves us no choice in the harmonization of those degrees. But as we wish to remain entirely in this scale, and have nothing but concords to work with, we must be governed by the chart :

THEME IN A-MINOR.

Ex. 132.  Musical notation for Ex. 132. It shows a treble clef staff in 3/2 time. Above the staff, the notes 'Do si do do re mi fa mi re do do si do.' are written. Below the staff, chords are written for each note. The chords are: Do (C), si (B), do (C), do (C), re (D), mi (E), fa (F), mi (E), re (D), do (C), do (C), si (B), do (C).

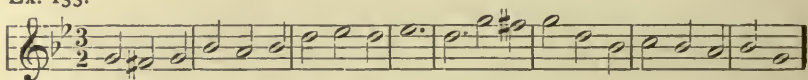
The letters above the melody correspond to those of the chart, and render the harmonization easy of accomplishment. The repeated notes are to be considered connecting links, and the harmony is to change at such places.

Like previous themes, this is continuous, and should begin and end with the tonic chord.

The chord progressions must in every instance be according to previous directions. The interval of an augmented 2d (*f* to *g-sharp*) appears in the second measure ascending, and from the third to the fourth measures descending. The author regrets that this interval has been forbidden by theorists, for if it is incorrect, then the scale must be incorrect. Nothing but a spirit of mechanical and anti-artistic pedantry could have sought to interdict an interval so necessary to composition, and so characteristic of our modern minor scale. Do not, therefore, hesitate to use the augmented 2d; it is perfectly proper, and, in fact, indispensable.*

Another theme is offered, affording more scope in the harmonization :

Ex. 133.



This is exclusively in *G-minor*.

As it presents no new difficulties, its completion is left to the student, with the advice that it be arranged carefully and transposed into other minor scales.

Chapter XVII.

THE MAJOR AND MINOR MODES COMBINED.

INTRODUCTION TO MODULATION.

WHILE we remain strictly in a minor key it is evident that our means are limited, and our field of operations narrow.

The four concords can be combined into twelve progressions; still we feel restrained, having but one chord with which to accompany the 2d and 7th, and but one for the 4th of the scale. We will, therefore, combine the relative major and minor modes, as they are intimately related and connected.

*This applies to instrumental music. In vocal compositions the augmented 2d is frequently undesirable.

The minor scale constitutes a mode, or characteristic series of sounds having a recognizable fundamental, or key-tone, to which the melodic or harmonic cadence naturally resolves.

The major scale constitutes another mode, possessing equally recognizable, though different characteristics.

It is proposed to combine these two modes.

Reference is here made to relative major and relative minor, having the same external signature. Each scale contains a tone foreign to the other. *A-minor* includes *g-sharp* as leading tone, while *C-major* embraces *g-natural* as normal 5th and foundation of its dominating harmony. Thus each scale has an individual tone not contained in the other. From this it is seen that *g-sharp* points to *A-minor* and *g-natural* to *C-major*.

In combining the chords for this dual key, three of the chords in *A-minor* already occur in *C-major*. Name the chord in *A-minor* that does not appear among the six in *C-major*.

With the addition of this, there will be seven triads to work with. Concords occurring in both scales are given:

Ex. 134.

The upper figures refer to the major, the lower figures to the minor scale.

Write a chart for both modes, beginning upon *C*. In adding the chords beneath the scale degrees the chord containing *g-sharp* is to be included every time one of its notes occur in the upper part.

This dominant chord to the relative minor is to be written last, for it is not well to follow the chord containing *g-sharp* with a chord containing *g-natural*. The indication of the chart is to be completed by the student:

Ex. 135.

The theory for applying this chart to harmonization has already been partially explained.

When *g-natural* appears, either melodically or harmonically, the tonality of *c-major* prevails. But when *g-sharp* makes its appearance, the minor key is anticipated, for it is leading-note to *A-minor*,

and 3d of the dominant harmony. The minor mode will prevail until one of these chords occur :



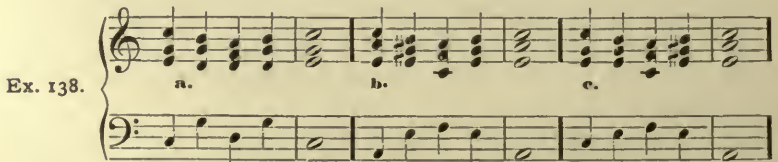
Consequently the chords *E-major* and *E-minor* should be considered entirely distinct from each other. In connection with this subject the author will promulgate but one arbitrary rule, and this must remain in force until more experience on the part of the student shall justify its violation: Whenever use is made of the dominant chord to the related minor, it must be followed by one of these chords: Tonic-minor, sub-dominant or sub-mediante. In other words, *g-sharp* must not be followed by *g-natural*. No objection can be made to the reverse of this order. (See chart.)

The theme which will presently be introduced is so contrived as to be alternately in *C-major* and *A-minor*. In this respect it is similar to many compositions of the present day. The tonality is generally influenced by the harmony. For instance, this melodic phrase might be harmonized in three or four different ways :



(It would be well for the student to attempt several arrangements of this phrase.) * * *

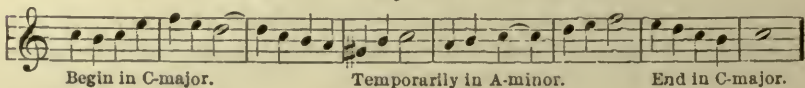
It may begin and end in either *C-major* or *A-minor*. As a preparation to what follows, these examples are presented :



All these harmonizations are correct, though each has its peculiar effect and distinct application in actual composition. But the esthetic character of the examples can not be considered here.

Ex. 139.

THEME IN C-MAJOR AND A-MINOR.



This melody is principally in *C-major*. In the fourth measure there is a transient passage to the relative minor.

Harmonize as usual in four parts, and then transpose. * * *

The next theme is to be harmonized principally in *A-minor*. In the fifth measure there is a temporary digression to the relative major:

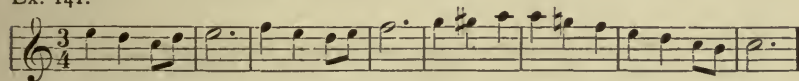
Ex. 140.



The *g-sharp* is the only note that admits no choice of harmony. Transpose as in the last example. * * *

One more theme is offered for harmonization according to the same chart. This should begin in *C* and end in *A-minor*:

Ex. 141.



The main requisites are to have the chord progressions correct, and to know where the changes of mode occur, as this lesson is intended to foreshadow the principles of transition.

Transpose each example until the subject it illustrates is thoroughly comprehended.

Chapter XVIII.

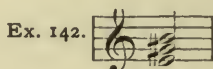
PRIMARY MODULATIONS TO ALL THE RELATED KEYS EXCEPTING THE SUB-DOMINANT.

MODULATION signifies a change of key, a passage to some other base of operations. It is generally used synonymously with Transition, though the latter is the stronger term. This distinction will appear hereafter.

To accomplish even a temporary modulation some chromatic alteration must be introduced that is suggestive of the key to be established. For instance, in modulating from *C-major* to the

relative minor it will be necessary to introduce into the modulating harmony some note that is characteristic of *A-minor*, and does not belong naturally to the original scale, *C*.

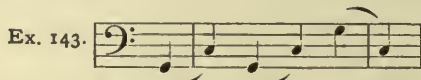
What is this note? The dominant to *A* is *e*, and as the dominant chord is supposed to contain a major 3d and normal 5th, the characteristic note is found in this chord:



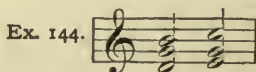
This leads naturally to the chord of *A-minor*. The dominant chord is best adapted to perform a natural modulation, and it is the only modulatory chord at present available for our purpose.

A dominant chord is founded upon the fifth tone of any major or minor scale, and contains a large 3d and a normal 5th from the root.

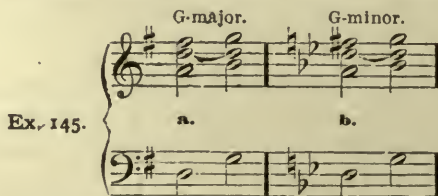
The root is a dominating note, and when it appears in the base, that part ascends a fourth or descends a fifth to the key-tone with considerable strength and determination, thus:



The other parts of the chord correspond to this. The root remains as fifth of the tonic chord; the third ascends a half step to the key-tone; and the fifth ascends to the third of the tonic chord:*



The 3d, being the leading-tone, is the most important note of the dominant chord, particularly in modulation. The dominant chord is the same in tonic major or tonic minor. See example:



* When the third is said to ascend it is understood to refer to the voice or instrument that sounds this tone, for, strictly speaking, the tone itself is an independent sound and can not move.

It is somewhat singular that this first chord should occur naturally in both modes, presupposing that the *f-sharp*, as leading-note, occurs in the minor scale. There is no difference between the dominant chord at (a) and the one at (b), though the first leads to *G-major* and the second to tonic minor. This is an Authentic, or regular Cadence, and in future examples will play a more important part.

The first modulations are to the related keys. The related keys are "those which differ from the original by not more than one sharp or one flat." Therefore the related keys to *C-major* are, *F-major*, *G-major*, the related minors to these (having the same signatures) and the relative minor to the tonic. This family group consists of six keys, three major and three minor. The six concords that have been used are the tonic triads of these related keys. But when the *key* of any of these is mentioned, the full scale, and, consequently, the signature of that key, must be comprehended.

The chords of these related keys are these :



With their respective signatures they would appear like this :



In each exercise the relative minor follows its major with the same signature. Therefore when we think of a modulation, for *e. g.*, to *E-minor*, we must also think of this scale :



for in order to establish the tonality of *E-minor* it is necessary to comprehend this series of tones.

The technical names of the related keys and the chords which represent them were explained in Chapters III and IV.

Ex. 147 shows the groups of natural chords, with their corresponding numbers, and their connection with each other harmonically. We may move the parts from one chord to any other chord in the scale without affecting the original key-tone, and without taking cognizance of any other scale. This would be Progression.

But in order to effect a transition and create a new tonality we must introduce that tone which represents the difference between the original key and the one to which we are *in transit*.* In this instance the old key disappears (even though but temporarily), and a new base of tonal operations is established. In the latter instance a chromatic alteration is employed as transition note; in the former, no chromatic sign is used.

All the related chords in progression follow :

Ex. 149.

This is a mere chord succession; the tonality of *C-major* not being in any way affected. But when we consider any of these chords as tonic of a *related key*, it implies that a modulation *has been*, or *is to be accomplished*.

To proceed with the modulations in regular order: *C* to *D-minor*; *C* to *E-minor*; (*C* to *F-major* here omitted) *C* to *G-major* and *C* to *A-minor*.

The mode of each related key is governed by the signature of the original key. In other words, the tonic chords to the related keys are to remain as we find them naturally :

Ex. 150.

If we should modulate from *C* to *D-major*, it would not be an elementary modulation, but a transition.

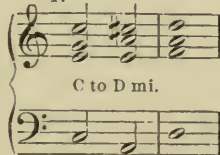
The modulations should be written in this order: Begin with the *C* chord, *c* being uppermost. The first passage is to *D-minor*. What is the dominant to *D*? Write the root in the base. What is the leading tone to *D*? (It must be a minor 2d below the key-tone.) What is the dominant chord to *D*? Does it contain the new leading-tone? (Every dominant chord must have a major 3d and normal 5th.) Write this chord over the root note. The chord movements must be correct according to previous directions. Therefore the

*By means of a dominant 7th chord with its 3d omitted we might prove an exception to this, but it would be premature here.

connecting notes must remain in the same parts as usual. Resolve the second chord (the modulatory one) to the chord of the new key, merely following the rules of progression in passing from chord to chord. * * *

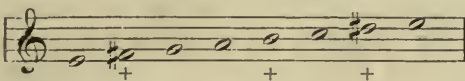
Supposing this much to have been written by the student, the example may be compared to the following, in order to correct possible errors, or to confirm impressions rightly formed :

1.

Ex. 151. 

This first example is to be arranged in two other positions. The base will remain the same during the re-arrangements of any particular modulation. In this example the chromatic note, *c-sharp*, serves to erase our impression of the original key, and, together with the dominant chord on *A*, establishes the key of *D-minor*.

Considering this as an individual example, we begin again with the *C* chord and proceed to modulate to the next key in regular order. What is the dominant to *E*? Write it in the base. What is the full dominant chord? Does it contain the leading tone to *E*? Does it contain any other tone not common to *C*? Are these chromatically altered notes common to the scale of *E-minor*? Write the scale to prove this :

Ex. 152. 

The crosses show the notes that comprise the dominant chord to *E-minor*. Therefore the chord *B, d-sharp, f-sharp*, is perfectly natural to this key.

Now write the modulatory chord. In doing so, remember there is no connecting note between the first two chords, and proceed accordingly.

The *E-minor* chord naturally follows the dominant chord on *B*, and this progression is easily written. There is always a note of connection between dominant and tonic chords; tonic, in this instance, referring to the new key-tone.

This modulation to *E* is to be numbered 2, and re-arranged in two other positions. * * *

The next modulation is to *F*. The dominant chord is *C, e, g*, but it contains no note foreign to the key of *C*, and therefore will not perform the transition :

Ex. 153.

The musical notation consists of two staves. The upper staff is in treble clef and shows two chords: a C major triad (C4, E4, G4) and an F major triad (F4, A4, C5). The lower staff is in bass clef and shows two chords: a C major triad (C4, E4, G4) and an F major triad (F4, A4, C5). The example is labeled 'Ex. 153.' to the left of the staves.

This is a mere progression from the *C* to the *F* chords, and the key still remains *C*. Consequently this modulation to the sub-dominant must be omitted, as it can not be accomplished without a discord.

The key of *G* is next to be established. The same theory will serve our purpose. What is the dominant to *G*? (Always the 5th of any scale.) What is the dominant chord to *G*? Does it contain the leading-note to *G*?

Write the base first after the chord of *C*, with *c* uppermost, add the dominant chord above the root, and end with the chord of the new tonic *G*.

(Between the *C* and *D-major* chords there is no connection. The upper parts must accordingly move in an opposite direction to that of the base.) Two other positions of this example are to be written, as usual. In going from dominant to tonic, the fundamental base may ascend a 4th or descend a 5th to the key-tone.

The fourth of the present modulations is to the relative minor. Write the base first, then the other parts, being careful to use the major 3d of the dominant chord as leading tone to the new key. Number this 4, and re-arrange in two other positions.

When all these are completed, write the same modulations from *D-major*, *E-major* and *B-flat-major*.

In no instance is the modulation to the sub-dominant to be attempted.

Chapter XIX.

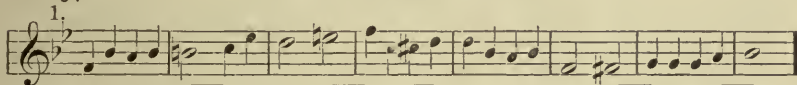
THEMES FOR HARMONIZATION, ILLUSTRATING
THE PRECEDING MODULATIONS.

THE separate modulations which have been accomplished from an original key-tone will now be included in a continuous, transitional melody.

The student is first to discover what modulations are intended at certain points in this theme, and then how these modulations are to be made. (The latter problem has been solved.)

MODULATORY THEME.

Ex. 154.



The chromatic notes, even without the dashes, would indicate where the modulations take place. By referring to the Table of Modulations in *B-flat*, something of a chart will be found for the harmonization of this modulatory theme. The only difficulty is that this melody is continuous. The modulations do not begin with the chord of the original key-tone, as was the case in the mechanical examples. For instance, the first chord in the third measure is not *B-flat*, but either *G-minor* or *D-minor*. The chord movements must, however, be written correctly.

The *e-natural*, in the third measure, might be mistaken for a modulatory indication other than that intended. But the following *c-sharp* removes the doubt, as it is not intended to modulate to the same key in two different places.

After performing the modulation to *C-minor* it would be well to introduce the *G-minor* chord on the first of the third measure in order to temporarily restore the original tonality; for it is more elementary to modulate from *G-minor* to *F-major* than from *C-minor* to *F-major*. In the last of the fifth measure (third quarter) the impression of the modulation to *D-minor* is to be erased by using the dominant chord to the original key. After the modulation to *G-minor*,

include the dominant chord to *B-flat* in order to restore the original tonality.

In case any student should experience difficulty with this example it may first be transposed into *C*.

When the example is completed, the mezzo-soprano and contralto parts should each be taken as a theme, including the previous modulations. This will merely result in two other arrangements of the same modulations, but it will also show how modulations may be effected without any outward sign, thus illustrating the harmonic possibilities of a melody.*

* * *

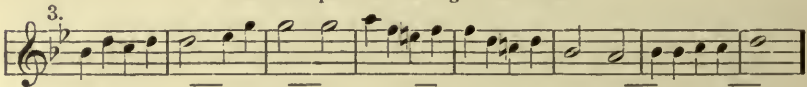
These resultant themes have been extracted from the original harmonization, and are here presented for the student's benefit. As the same harmonies and modulations are to apply to these additional arrangements the base will require no alteration:

Ex. 155.

Mezzo-soprano part as theme.



Contralto part an 8va higher as theme.

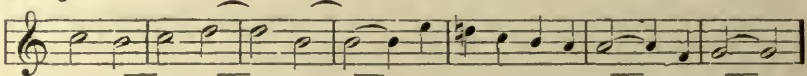


Transpose these themes into *C* and *D-flat*, and harmonize. For this purpose a chart may be necessary.

The next theme contains no chromatic notes to indicate the modulations, but a reference to the chart in *C* will show the solution. Two *d*'s for instance will be found in the transition to *G-major*. In the original table the two *d*'s appear in the second arrangement. This will serve as a clue to the others.

THEME.

Ex. 156.



Harmonize and transpose into *A*, *B*, and *D*.†

The chords should also be re-arranged if the pupil needs still more practice in this subject.

* A minor key may be established by means of minor chords without employing a transition chord. The same may be done with a major key. But this can not be explained at the present time.

† Remember that the ♯ is a sign of elevation in a flat key, and of depression in a sharp key.

Chapter XX.

MODULATIONS FROM THE MINOR MODE, WITH
ILLUSTRATIVE THEMES.

IN making modulations from a minor key-tone there are certain principles to be understood that have merely been touched upon in previous chapters. These principles will be explained as they occur in the following modulations. The intention is to perform modulations from a minor key-tone, not to make mere progressions. The following triads are selected :

Ex. 157.

The upper figures indicate the order in which the keys are classified, first minor and then major; the lower figures show the degrees of the scale upon which these triads are founded.

Observe that the dominant chord here appears as minor, because a natural modulation can not be made to *E-major*.

But as the signature of *E-minor* is only one sharp it is included among the related keys. The leading-note to *A-minor* does not appear, because the object is to show the keys to which modulations are to be made. The last chord (*G*) is founded upon the subtonic, or imperfect leading-tone.

Begin with the *A-minor* chord (as representing the key of *A-minor*) and modulate to *D-minor*. This is to be done in the same manner—by means of the dominant major chord. (The transition chord is the same as was used in going from *C* to *D-minor*.)

Then begin again in *A-minor* and modulate to *E-minor*, as before. The modulation to *C-major* can be effected in the same way; but it must be understood that *g-sharp* is the only characteristic tone in *A-minor* that does not occur in *C-major*. In commencing in *A-minor* and introducing the dominant chord to *C*, which is founded upon *G-natural*, the latter note acts as a chromatic alteration and effects the change of key. According to the same principle a passage can

be made to modulate from *A-minor* to the relative major of the sub-dominant, which would have been impossible in *C-major* without employing a discord. For instance:

Ex. 158.

A-min. to F-major.

The chromatic sign in the second chord complies with the principle at first set down, that every transition chord must contain a chromatic alteration. The *g-natural* does not belong to the scale of *A*.

The modulation to the relative major of the dominant is effected by the dominant major chord containing *f-sharp*.

These modulations should all be written in three positions. A theme will now be presented, in the harmonization of which the student is to begin in *A-minor*, modulate to five related keys, and back to the original tonic in the final cadence.

Ex. 159.

By referring to the separate modulations from *A-minor*, the student will discover what keys are to be established at the places indicated by dashes.

After harmonizing this, the mezzo-soprano and contralto parts may be taken as themes (uppermost) and harmonized in the same way.

Also write a table of modulations from *E* and other minor keys to their relatives.



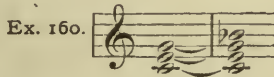
PART V.

Chapter XXI.

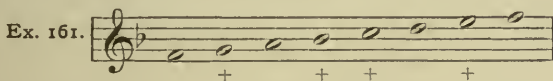
FORMATION AND RESOLUTION OF THE
DOMINANT SEVENTH CHORD.

WE have arrived at a point beyond which no material progress can be made with concords. A discord is therefore introduced. In modulations from a major key it will be remembered that the subdominant was omitted, because the tonic chord could not appear simultaneously as tonic and dominant. So the inquiry is made—what note in the *F* scale does not appear in the *C* scale? This note is situated a minor third above the 5th of the concord, with which it may well be combined.

The chord on *C* should not be rejected because it is insufficient to perform the modulation to *F*, but a transition element should be added to it:



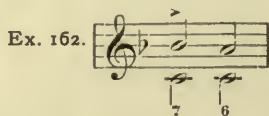
This destroys the impression of the key of *C* and creates the key of *F*, because these notes occur naturally in no other scale:



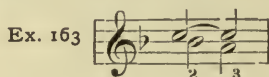
The crosses indicate the dominant seventh chord just formed.

This is a four-toned chord, the most agreeable and one of the most important in our harmonic vocabulary. It is called a discord,

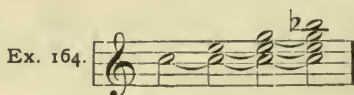
merely in opposition to concord, for the root and 7th form a dissonant interval and require resolution to a consonance:



This is still more noticeable when inverted:



To analyze it farther, it contains, theoretically, a major 3d, normal 5th and minor 7th:



It may also be described as consisting of one major and two minor thirds. Or, it includes a normal and an imperfect 5th combined.



In certain resolutions it will be necessary to view it in this light.

THE RESOLUTION.

As already observed, this discord belongs to the key of *F*. The 3d is leading note, and ascends a minor 2d to the tonic; the 5th has no fixed resolution, but for the present will be directed downward a whole step; the 7th has a decided natural tendency to resolve down to the 3d of the tonic chord; the root-note, when it appears among the upper parts, remains stationary, and becomes 5th of the tonic concord; the base moves from root to root. The illustration is presented in score in order to show more plainly the resolution of the discord:

Ex. 166.

The most important notes of the discord are the 3d and 7th:

Ex. 167.

In whatever position the chord may appear, these directions will apply:

Ex. 168.

These tones are known in theory as "elements of transition," and are usually called by their technical terms, "leading-tone and sub-dominant." (These terms here refer to the key of *F*, for the chord no longer belongs to *C*.) Leading-tone always means the minor 2d below any tonic, and sub-dominant refers to the 4th of the key to which the discord belongs. These important elements will be met with in other discords, and their thorough comprehension will facilitate future labors.

The dominant 7th chord must now be written and resolved in every major key and in every position. As the base merely moves from root to root, the examples may be written without the base staff, as:

Ex. 169.

In C.

As each note of the discord appears lowermost in regular succession, the re-arrangement of the discord will present no difficulty. Observe that each note of the discord is resolved in the same manner at 2, 3 and 4, as at 1. Proceed by fifths in the transpositions and include the signature of each key. The root of the discord will then appear upon the 5th of each scale, and no further chromatic sign will be required. Here is a partial indication of the next example in order:

Ex. 170.

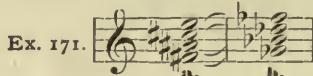
In G.

As the 3d ascends and the 5th descends to the tonic, there are two

voices singing this latter tone, and it is well to indicate this fact for the present by writing the tonic note in unisons or primes. This is explained by the third position of each example, and also by the five part resolution in score, Ex. 166.

In the first exercises it is advisable to resolve the most important elements first. These are the sub-dominant and leading-tone (7th and 3d of the discord), and in whatever position the chord may be these names still apply, and the resolution is the same.

B, *F-sharp* and *C-sharp* should be written in their enharmonic equivalents; *i. e.*, with the same sounds, but different notation. An example of this process is presented :



F-sharp becomes *g-flat*, *a-sharp* becomes *b-flat*, *c-sharp* becomes *d-flat*, and *e* will appear as *f-flat*. (A) and (b) are enharmonic equivalents. The first belongs to *B-major*, the second to *C-flat-major*. Both keys are practically identical. *F-sharp* and *G-flat* are also equivalent keys, and so are *C-sharp* and *D-flat*.

Continue the transpositions (Ex. 170) by fifths, and thus return to *C*. Such process is called the cycle of keys. The student should complete the task. * * *

If the base be included with the exercise, five-part harmony will result, as in Ex. 166. This shows the resolution of all the parts of a discord; but it is not advisable to employ more than four parts in the present exercises.

The remaining modulation omitted in previous lessons should now be supplied. Begin with the *C* chord with *c* uppermost; retain the root, 3d and 5th, and move the soprano part from *c* down to *b-flat*. In the next measure resolve the discord according to previous directions. The base may ascend a 4th, or descend a 5th, from root to root. * * *

Write two re-arrangements of this. An example of the three arrangements is offered for comparison :

Ex. 172.

This completes the modulations from *C*.

The sub-dominant, *b-flat*, is here the most important element of transition, as it represents the difference between the scales of *F* and *C*. The modulation corresponding to this in the key of *G* is to *C-major*. It is to be accomplished in the same manner:

Ex. 173.

Continue these exercises in several keys, until the principle is well understood.

This mode of treatment, though perfectly proper, leaves the final chord incomplete. Observe that no 5th appears in the concord. The root and 3d, however, give a fair representation of the tonic chord, for those notes occur in but one other concord, the relative minor, and we are not inclined to imagine this latter chord.

The root in the base gives a very strong indication of being tonic, and the resolution of the discord, according to its most natural tendency, serves to confirm the impression created by the base. This, therefore, may be considered as synonymous with the cadence in which the concord is fully represented:

Ex. 174.

(A) has been used as frequently as (b), especially on the final cadence. Following is an instance from a standard English Glee:

Ex. 175.

Callcott.

From this and innumerable similar instances it is reasonable to conclude that the 5th of the concord is not essential in a final cadence.

But in an intermediate progression the incomplete concord is sometimes difficult to manage. Witness these examples :

Ex. 176.

Ex. 177.

The progressions indicated by the dashes are awkward, if not positively incorrect.* To obviate these difficulties will be the principal object of the next chapter.

Chapter XXII.

OMISSION OF THE THIRD OR THE FIFTH FROM THE DOMINANT SEVENTH CHORD.†

ANOTHER mode of treating the dominant 7th chord, so as to leave the concord complete, will now be shown. The root of the discord is the same as the 5th of the tonic triad, and is, therefore, a connecting note :

Ex. 178.

But if the base be added there will be five parts. Therefore, if the complete tonic chord is required it will be necessary to omit some note from the discord. If we leave out the root or the 7th, a dominant 7th chord will no longer appear. But as the 3d and the 5th each resolve to the tonic we may omit either of those tones :

*The resolution of the dominant 7th chord here results in what the author terms a half open position.

† This chord is also known as the Principal 7th, and as the Essential 7th.

Ex. 179.

The notation shows two measures of music. The first measure, labeled 'a.', features a treble clef with a chord of G4, B4, and D5, and a bass clef with a chord of G2, B1, and D2. The second measure, labeled 'b.', features a treble clef with a chord of G4, B4, and D5, and a bass clef with a chord of G2, B2, and D3.

The effect upon the tonic chord is the same whether the 3d or the 5th be omitted. In both instances the concord is complete, the 5th having been retained from the duplicated root-note of the discord. The combination *g, d, f* could only result from a chord founded on *G*, and containing *b*, thus :

Ex. 180.

The notation shows a single treble clef with a sequence of notes: G, B, D, F.

Likewise, *g, b, f* presuppose *d*, because the combination could not be accounted for otherwise. The resolutions of the discord at (a) and (b) of Ex. 179 are according to previous directions, which, as they are important, will be re-stated :

The root-note, when duplicated above, remains stationary as 5th of the tonic chord; the 3d ascends to the tonic; the 5th descends to the tonic; the 7th descends to the 3d of the concord.

The 3d or 5th of the discord may therefore be omitted, and with the best results, especially when the tonic chord is to appear in complete form.

How may the discord be introduced in its new form? This is influenced by the contents of the previous chord. If the 3d of the discord appears as part of the antecedent chord, it is better to retain that note and omit the 5th :

Ex. 181.

The notation shows two measures of music. The first measure, marked with a '+', features a treble clef with a chord of G4, B4, and D5, and a bass clef with a chord of G2, B2, and D3. The second measure, marked with 'etc.', features a treble clef with a chord of G4, B4, and D5, and a bass clef with a chord of G2, B2, and D3.

This is both correct and effective. Observe the chord marked + and why the 3d is included to the exclusion of the 5th. But if the antecedent chord contains the 5th of the discord, it will be better (for the same reasons) to retain that note and omit the 3d, thus.

Ex. 182.

etc.

The 5th and 7th of the discord at + are derived from the previous chord, and do not progress. By duplicating the root (in order to have the tonic chord complete) the 3d is necessarily omitted.

Re-arrange the last two exercises in two other positions and transpose them into several keys. * * *

There is another circumstance that may influence the omission of a certain note from the discord. For instance, in progressing from the sub-dominant harmony to that of the principal 7th, the 5th is omitted to avoid parallel 5ths :

Ex. 183.

a. b. c.

At (a) and (b) there are consecutive 5ths between the base and mezzo-soprano parts. The 5th at (c) resolves to a 3d, while the upper octave remains, and becomes 7th of the discord. The 5th of the dominant 7th chord therefore is omitted. Example (c) is both correct and useful, and the student should write it in various keys, with the other arrangements included, thus :

Ex. 184.

Perform all these illustrations and listen to their effect. If the dominant 7th chords have been written and resolved in all the major keys, as advised, it will not be necessary to make extended mechanical examples of the discord with its 3d or 5th omitted, as the rules of resolution remain the same. If the task has been neglected the student has thereby assumed a responsibility which would otherwise have rested upon the author.

A theme will now be given for harmonization in which the substance of this chapter is to be illustrated :

Ex. 185.

The musical notation for Ex. 185 consists of two staves. The upper staff is a treble clef with a melody of eighth and quarter notes. The lower staff is a bass clef with a bass line of quarter notes. Below the bass line, there are four figures: 7, 7, 7, and 7/5. Dashes are placed under the first three figures, indicating modulations.

As the base is fundamental there will be no trouble in supplying the harmony. The dashes indicate modulations, and the chromatic notes are to be included. $\frac{7}{3}$ means that the 5th is to be omitted ; $\frac{7}{5}$ refers to the omission of the 3d. On the final cadence the discord is to appear in complete form, with its 3d, 5th, and 7th, and resolved rubably. When completed, this theme should be transposed to *B-flat*, *D* and *E-flat*. It also admits of re-arrangement, and this should not be neglected, for it shows the different phases of a certain progression. A solution is included in the Key.

As a summary of what has been explained in this chapter the following precepts are deduced :

1. That a dominant 7th chord may be used in its entirety, or it may appear with its 3d or 5th omitted.
2. When the discord appears in its entirety, and is resolved correctly, the following tonic chord will appear incomplete (without its 5th).
3. When the 3d or 5th of the discord is omitted, and the root-note is duplicated above, it resolves to the tonic triad complete, with the 5th included.
4. That the 5th of the tonic triad is to be included in all intermediate passages.
5. That in the final cadence the full dominant 7th chord may be used and resolved to the tonic triad without its 5th.

As a useful practice the cadence may also be arranged in this manner, by altering the melody :

Ex. 186.

The musical notation for Ex. 186 consists of two staves. The upper staff is a treble clef with a melody of chords (dyads and triads) connected by slurs. The lower staff is a bass clef with a bass line of quarter notes.

Some of the transpositions might end in this way.

Compare this with the original, Ex. 185

Both arrangements are correct and should be employed.

An important but rather abstruse principle enters here with regard to tone representations. This principle will be adverted to hereafter, and therefore a mere elementary phase of it is here presented. Under ordinary circumstances the final tonic chord will appear with only its root and 3d, and yet the effect may be complete, as though the 5th were included:

Ex. 187.

The explanation lies in our present system of tonality. These two measures embrace every note in the *C-major* scale, and as the theme naturally leads from the 5th up to the tonic, the final ending upon *C* is anticipated. Besides, the dominant 7th chord resolves naturally to the chord of *C-major*.

The 5th of this chord is omitted because no part of the discord, as here arranged, will naturally resolve to *g*. But the mind comprehends this note as part of the scale.

It is also known that the 3d or 5th may be omitted from a dominant 7th chord without creating an incomplete effect. This was explained theoretically upon the principle of fundamental chord formation: 1, 5, 7 presuppose 3, and 1, 3, 7 presuppose 5. But in addition to this theorem the author would observe that preconceived ideas of tonality have become so fixed that we readily supply many actual omissions, and even conceive certain harmonies in a relation almost totally different from their actual preliminary representation.

An illustration that frequently occurs in composition is here cited:

Ex. 188.

Legato.

Jarvis.

At (a) the tonic chord is heard with its 5th in the base, and as this is a postlude it is natural to expect the dominant 7th founded on the real-base to follow, as it does at (d). But at (b) the notes are *g*, *b*, *e*, *g*, and these constitute the triad of *E-minor* according to theoretical chord formation. But never for a moment is the chord at (b) associated with the triad of *E-minor*. All the circumstances tend towards an authentic cadence with the dominant 7th as a basis, and the *e* is recognized as a suspension from the tonic chord. The *d* to which the *e* resolves is also anticipated, even without the 7th in the base. When this tone is heard at (c) the impression is confirmed. Under such circumstances it is possible to omit both the 3d and 5th from an essential discord without leaving the mind in doubt as to the harmonic effect.

Chapter XXIII.

MAJOR AND MINOR RESOLUTIONS OF THE DOMINANT SEVENTH CHORD.

ILLUSTRATIVE THEMES.

THE fact has already been demonstrated that a dominant 7th chord is founded upon the dominant of a major or a minor scale. Its resolution therefore may be to minor as well as to major.

As the resolution to tonic major is more natural, if not more important, it is numbered 1.

The resolution to tonic minor will be numbered 2.*

Continue to follow the natural order as to major or minor modes as they are found in the group of related keys. These are here presented:

Ex. 189.

* Tonic major and tonic minor refer to the key to which the discord naturally belongs. Whether the tonic be major or minor depends upon the prevailing tonality.

The connecting notes show their relation, while the roots in the base indicate that every relative minor is located a small third below its major. The example shows the related keys in *G*, and at the same time indicates the mode of each, whether major or minor.

It will be well to understand this tonal principle, even beyond the realm of these nearly related keys. A corresponding diagram in *E-minor* is offered :

Ex. 190.

The musical notation for Ex. 190 consists of two staves. The upper staff is in treble clef with a key signature of one sharp (F#), representing G major. It contains six measures of chords: G major, B minor, D minor, E minor, F# major, and G major. The lower staff is in bass clef with the same key signature, representing B minor. It contains six measures of single notes: B, D, E, F#, G, and B. Vertical lines connect the roots of the chords in the upper staff to the notes in the lower staff, showing that the roots of the minor chords are a small third below the roots of their relative major chords.

The minor keys represented by minor chords appear here most prominently. The relative major of each is shown to be situated a small 3d above its minor. All these keys are comprehended in the table of natural or primary modulations. They are so intimately related as to form a tonal genus, or union. And it is possible to modulate to any of these keys and return to the original without entirely destroying the impression of the main tonic or initial key.

There is one more explanation to be made with reference to the last diagram. The chord on the 5th of the scale is minor; but this represents *B* as tonic, not as dominant. So long as we remain in *E-minor*, *d-sharp* will appear in place of *d*. When *B* becomes tonic of a related key, the *d-natural* will be the natural minor 3d.

As a farther illustration of the minor resolution of a dominant 7th chord a short exercise is given, including temporary modulations to each of the related minor keys :

Ex. 191.

The musical notation for Ex. 191 is a single staff in treble clef with a key signature of one sharp (F#). It contains nine measures of chords: G major, B minor, D minor, E minor, F# major, G major, B minor, D minor, and G major. The chords are connected by a melodic line of notes: G, B, D, E, F#, G, B, D, G. This exercise illustrates the resolution of a dominant 7th chord (G major) to its relative minor (B minor) and back to the tonic (G major).

This begins and ends in *G-major*, passing in transit through the tonalities of the three related minor keys. In the sixth measure the author has included a \sharp before *c*, because *c-sharp* is embraced in the tonality of *B-minor*, and $c\sharp$ serves to restore the original key-impression. The student is to add the base to this, using only the roots. In the ninth measure the dominant of the original key is to be employed as fundamental in the base.

Re-arrange this in two other positions, and transpose into *F* and *E-flat*. * * *

The modulation to *G-minor* includes two chromatic tones. At least one of these should be restored in the last ending. This may be written in either of the following ways:

Ex. 196.

The fact must be remembered that the modulation to *G-minor*, as well as that to *B-flat*, destroys the *A-flat*, and the tonality of two flats is therefore established in the sixth measure. The restoration of this element of transition is, accordingly, a necessity, and it is to be considered as a chromatic tone.

The note having an \flat under it may be accompanied by the subdominant harmony or by the dominant 7th.

When complete, the example should be re-arranged and then transposed into *D-flat* and *F*. The student must become familiar with all keys.

Chapter XXIV.

FOUR RESOLUTIONS OF THE DOMINANT SEVENTH CHORD ANALYZED.

TWO other resolutions of the dominant 7th chord will be added to those already explained. The first resolution is to tonic major, the second is to tonic minor. (Tonic here refers to the same key-tone; but the difference in signature between tonic major and tonic minor is three flats or three sharps. Relative major and minor have the same signature but different key-tones.)

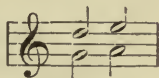
The third resolution is to the *minor triad* situated a *major 2d* above the root of the discord.

The fourth resolution is to the *major triad* located a *minor 2d* above the root of the discord.

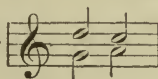
They are here represented :



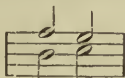
The first two are familiar. The third and fourth embrace different principles. The discord must first be divided, as it contains two fifths. The lower fifth comes first. Both notes of this interval can-

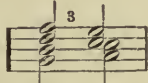
not ascend without producing parallel fifths: Ex. 198. 

The notes must therefore resolve in opposite directions, as oblique movement is not here possible :

Ex. 199.  This is correct.

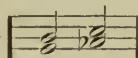
The upper fifth must be submitted to the same process, with this

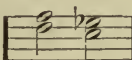
result: Ex. 200. 

The two parts may now be combined: Ex. 201. 

The exception to this resolution occurs when the 7th appears in one of the middle parts. This will be illustrated in the next chapter.

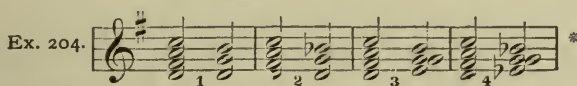
The same is true of the fourth resolution. Each of the fifths must resolve contrarily. Or, we may resolve the lower third up :

Ex. 202.  and the upper third down, with the same result :

Ex. 203. 

The student may now proceed to write on one staff the four resolutions of every dominant 7th chord. (There are twelve, besides the enharmonic equivalents.)

Begin each example on the dominant of a major scale. Number the resolutions 1, 2, 3, 4, and do not forget to include the necessary chromatic signs for 2 and 4. The signature of the first resolution is to be included for each example, thus :



* Observe that the original tonic (a 4th above the root of the discord) appears in all of the resolutions.

Begin the next example with the dominant 7th on *A*, key of *D*; then three sharps, and so on till the cycle is completed.*

Five, six and seven sharps ought to be written enharmonically. One of these is included as a guide:

Ex. 205.

THE RESOLUTIONS ANALYZED.

Numbers 1 and 2 we will call Principal or Regular Resolutions. In both instances the elements of transition are resolved regularly.

Numbers 3 and 4 involve a new principle in our theory. The elements of transition consist of the leading-tone and sub-dominant. These elements must occur as parts of the resultant concord. Ex-

amine the third resolution: Ex. 206.

The sub-dominant to *e* is *a*. This appears in the discord, and its resolution to *g* is perfectly regular. But the leading-tone to *e* is *d-sharp*, and the root of the discord is *d-natural*. This sub-tonic could not occur in a direct transition nor in an authentic cadence. We therefore name this a Secondary or Irregular Resolution.

In the fourth resolution the conditions are reversed in respect of the elements of transition. The leading-note is present, but in place of the sub-dominant (*a-flat*) we have *a-natural*. The key can not be decided as that of *E-flat*, for there are two notes foreign to that

key: Ex. 207.

Consequently this, like No. 3, is an

Irregular Resolution. In other words, Nos. 3 and 4 are to be considered rather as progressions, and not as determining the keys represented by the resulting concords.

This will prove true of every example. 1 and 2 are direct resolutions, and may terminate a period or a composition. 3 and 4 are

* These theoretic... examples must be kept together, as they will be required in the next chapter.

incomplete, indirect resolutions, and something more is expected to follow.

The student should analyze several examples as indicated. The preliminary task is a mere theoretical exercise. The applications and classifications belong to the next chapter.

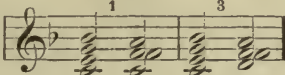
Chapter XXV.

FOUR RESOLUTIONS OF THE DOMINANT SEVENTH CHORD CLASSIFIED AND CHARACTERIZED.

DIRECT AND AVOIDED CADENCES.

THE four resolutions of a principal discord will now be classified with a view to their application in actual composition.

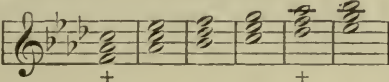
In the key of *F-major* how many of the resolutions of the dominant 7th chord can be used naturally? In order to answer the question it will be necessary to imagine the concords in this key, namely, *F, G, A, B-flat, C* and *D*. The discord may therefore resolve naturally into either of these two chords:

Ex. 208. 

No. 2 is to *F-minor*; No. 4 is to *D-flat-major*. Both these chords are unnatural in the key of *F-major*. But the discord, *c, e, g, b-flat*, belongs to another key, namely, *F-minor*. Write the second and fourth resolutions in this key, and compare the result:

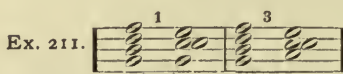
Ex. 209. 

By referring to the consonant chords in *F-minor* we may ascertain if the last two resolutions are practicable:

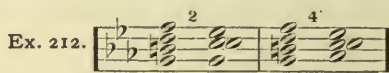
Ex. 210. 

The two concords (Ex. 209) occur here naturally. From this we may conclude that in the key of *F-minor* the second or fourth resolutions of the dominant 7th chord might be used, but that in the key of *F-major* these resolutions would be unnatural, and 1 or 3 should be selected. In either mode a direct or an avoided cadence may be chosen. In the two examples thus far classified it should be noted that the resulting triads appear naturally, without chromatic signs.

The student should now classify all the examples of the previous lesson. Write the first and third resolutions in the key of the tonic-major first:



These belong to *C-major*. Then write the second and fourth resolutions in the key, and with the signature of the tonic-minor:



These belong naturally to *C-minor*.

The four resolutions of the dominant 7th chord on *G* appear in the two examples, but as the discord belongs equally to two different modes, the first and third resolutions occur naturally in *C-major*; whereas the second and fourth are associated with the tonality of *C-minor*.

As *C-major* is a natural scale, and as *C-minor* has three flats, the signatures are too much at variance to admit of *intimate relationship*.

The student is expected to complete the classifications in the manner illustrated. * * *

Having ascertained the peculiar tonal characteristics of the various concords into which a principal discord may disappear, the next step is to know the objects of these different kinds of resolution.

The first and second constitute Direct (Authentic) Cadences; the third and fourth constitute Avoided Cadences.

In a direct cadence the discord is resolved in a natural and decided manner.

In an avoided cadence the discord is resolved in an unnatural, undecided manner.

The object of a direct cadence is to decide a key or close a period.

The object of an avoided cadence is to prevent a final close, and thus prolong the period. One is determinate, the other is indeterminate.

The direct resolution is most useful at the close of a period or movement. The indirect resolution serves the best purpose in the middle of a period, or before the last ending, as a means of sustaining the interest by leaving the ear unsatisfied until the direct cadence occurs.

The number of cadences to be employed in any tonal genus must now be ascertained. The previous classification will help to solve this problem. The tonal genus comprehends the tonality of the six keys represented by these familiar concords :



The resolutions of the discord, whether direct or indirect, must, for the present, be into some of these triads. The dominant 7th chord that represents the first triad is founded on the top note of the triad. Write this. * * *

Of the four resolutions of this discord how many can be used naturally in this key? Mention the chords and give their numbers in relation to the four resolutions? Write these. Which is an avoided and which a direct cadence? * * * (This has already been illustrated in Exs. 211 and 212.) Write the dominant 7th chord that represents the second triad. How many resolutions of this discord can be employed naturally in this key? By referring to the original example in *D*, it will be seen that the four resolutions of which the discord is capable are: 1, *D-major*; 2, *D-minor*; 3, *B-minor*; 4, *B-flat-major*. Only one of these can be used in the

present instance: Ex. 214.

The image shows a musical staff with a treble clef and a common time signature. A discord is shown in the first measure, consisting of a dominant 7th chord (D, F#, A, C) with a 7th (C) on the top line. In the second measure, the discord resolves to a triad (D, F, A) with the 7th (C) moving down to the 6th (B). The number 2 is written below the second measure.

This is a direct resolution.

Write the dominant 7th chord that represents the third triad. The fifth of the *E-minor* triad is *b*: a principal discord, founded on *B*, will contain *d-sharp*, *f-sharp*, and *a*, besides the root. An examination of the original example in *E*, which is here used as a chart, will reveal the fact that the four resolutions of the discord on *B* are:

1, *E*-major; 2, *E*-minor; 3, *C*-sharp-minor; 4, *C*-major. It is evident that 2 and 4 answer present purposes. Write these, and keep all examples together.

The discord representing the fourth triad comes next. After writing this, inquire what are its four resolutions, and which will be proper to use in this key. Here, likewise, is a direct and an avoided cadence.

The discord on *D*, representing the fifth triad, is next in order. Carry out the same formula as to questions and answers.

Next select the dominant 7th chord on *E*, representing the sixth triad, *A*-minor, and the examples will be completed. This has a direct and avoided cadence in this key. * * *

The available resolutions of a dominant 7th chord have been employed on every tone of the scale excepting the fourth. This does not represent a related key in any of its resolutions, but belongs either to *B*-flat major or *B*-flat minor. Hence its rejection here.

The student is to remember that though the resulting concords occur naturally and are not altered, the discords require chromatic alteration because they are *transition chords* in their original application. This is true of all except the discord to the central, or principal key, which belongs to its own scale and occurs naturally.

Complete examples are to be written in *D*, *E*, *B*-flat, *A*-flat and *G*-flat. These will be required in the next chapter.

Chapter XXVI.

AVOIDED CADENCES ILLUSTRATED.

THE avoided cadences previously classified and characterized are to be applied as in actual composition:

CHART.

Ex. 215.

The chart illustrates four examples of avoided cadences, labeled 1, 2, 3, and 4. Each example shows a discordant chord (triad) followed by a resolution chord. The first two examples are in E major (no sharps or flats), and the last two are in E minor (one flat). The first example (1) shows a discordant triad (E-G-B) resolving to a concordant triad (E-G-B). The second example (2) shows a discordant triad (E-G-B) resolving to a concordant triad (E-G-B). The third example (3) shows a discordant triad (E-G-B) resolving to a concordant triad (E-G-B). The fourth example (4) shows a discordant triad (E-G-B) resolving to a concordant triad (E-G-B).

By omitting the direct cadences (1 and 2) it will be a simple task to extract from this chart the avoided cadences (3 and 4), and this should now be done. * * *

The next step is to ascertain how these are to be arranged with regard to their harmonic progression. The first position of the discord is not favorable to an indirect resolution, for in order to avoid false fifths it is necessary to double the 3d of the concord, and this leaves the latter in an abbreviated form :

Ex. 216.

This is not here recommended. Invert the upper parts, as the base can not be altered :

Ex. 217.

The 3d of the discord descends, though in the original position it was compelled to ascend, to prevent parallel fifths with the *f* above. But here the 5th (*b* and *f*) appears as a 4th (*f* and *b*), and there is no prohibition against consecutive fourths when they are accompanied by another interval. This example is, therefore, correct. The 7th must descend to the 5th of the concord; the 5th of the discord is the sub-dominant, and must descend to the 3d of the triad as

though it were the 7th of the dominant : Ex. 218.

The root of the discord in the base must ascend a 2d to the root of the triad.

These are the most important resolutions, and from these directions there will be no deviation. The resolution of the 3d of the discord is variable. When it is below the 7th it must ascend, when above the 7th it may descend. This latter plan will be adopted here.*

*As a discord may disappear in many ways, the author does not intend to issue instructions except for particular instances. These rules merely apply to the third and fourth resolutions of an essential discord.

Another position of the discord is selected for resolution :

Ex. 219.

Each note of the discord is here resolved the same as in Ex. 217, which see. No false progressions result; the upper parts move in an opposite direction to that of the base, and the example is correct. At present only these two arrangements will be used, *i. e.*, with the 3d or 5th uppermost. These positions and their accompanying directions will apply to every discord of the dominant 7th when resolved indirectly.

Herewith a few indirect resolutions are presented, as they are to be applied in the harmonizations that follow :

Ex. 220.

The first two measures are third resolutions; the next two are fourth resolutions. All are good. In the fourth resolution one of the upper parts moves down an augmented 2d. This is correct, according to the testimony furnished by the most eminent composers. Here are two corroborative illustrations from the immortal Beethoven :

Ex. 221.

At (a) the augmented 2d appears ascending and descending, and at (b) the *b-sharp* descends plainly enough to *a*.

* The last resolution will be utilized in Harmonic Counterpoint.

THEME FOR HARMONIZATION.

Ex. 222.



The dashes show where avoided cadences take place. The chart containing the five avoided cadences in this tonal genus, together with such aid as the theme affords, will enable the student to determine upon the proper chords. All five irregular resolutions are to be employed, and that one which avoids the tonic cadence to *C* is to be used twice. The last cadence marked + is to be direct and final.

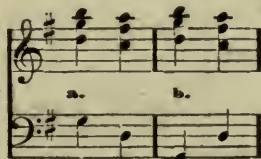
The author will repeat the directions here, in order to free them from previous explanations and examples :

1. The indirect resolution must be to some of the related concords.
2. The melody note is to be considered as 3d or 5th of the essential discord whenever an avoided cadence is made.
3. The base is to ascend a 2d from root to root.
4. The upper parts must descend in order to form contrary movement to the base.
5. The root-note of the discord is not to be duplicated in any of the upper parts.
6. The 7th of the discord must not (at present) appear in the melody.

Students are not required to commit these directions to memory, but to understand the principles involved. To do so it may be necessary to refer back to the illustrative examples, for every direction has been duly exemplified. The time has come for us to discard the machine methods of the school-room, where teachers are still groping in the dark, oblivious of the fact that cramming the memory does not cultivate the mind, or that one may "memorize lessons" without comprehending them.

A few of the progressions in the last example may cause misgivings on the part of the student, as where no connection appears in the upper parts, and where the base moves more than one degree :

Ex. 223.



While the progression at (a) is not positively wrong, it has somewhat the appearance of evil on account of the similar movement of all the parts. The arrangement at (b) is preferable, and should be employed when it is possible.

The harmonization of the theme should now be completed.

* * *

Almost every good composition verifies this application of the four resolutions of a dominant 7th chord. In fact, this system is based upon actual composition, not upon mathematical theories or vague hypotheses.

The harmonization of the last theme will be presented, as it contains some features comparatively new to the student:

Ex. 224.

The *E-minor* triad is perhaps better in the first and fifth measures, as it furnishes a connecting note with the following discord. Observe the contrary movement in such places as from the third to the fourth chords, first measure. The last avoided cadence might have been arranged without the 7th, in this way,

Ex. 225. etc.

especially as the avoided cadence to *A-minor* was included in the first of the example.

The last complete cadence might also have been written like this:

Ex. 226.

In such instances the 7th is not absolutely essential, though the

connecting note gives more consistency to the harmony, and is generally preferable.

The theme should be transposed to *B-flat*, *D*, *E-flat*, and *F*. Then write the avoided cadences associated with each key and proceed with the harmonizations.

In one of these examples the tonic triad may be substituted for the minor triad on the mediant. The last example does not admit re-arrangement.

The third resolution of a dominant 7th chord is inclined to be plaintive, to express disappointment and regret. Schubert has employed it in this sense.

The fourth resolution is bolder and brighter, though generally unexpected.

Both cadences have this in common: They avoid the regular cadence, and thus serve to postpone the ending; or preserve the interest, instead of allowing it to subside.

For most interesting illustrations of avoided cadences, the reader is referred to the Romance from *Tannhäuser*, "O, evening star." The first five cadences are avoided by means of third and fourth resolutions of the dominant 7th chord.

Note. Numerous instances occur in which a fourth resolution is used differently than in the author's classification. These occur in the nature of abrupt transitions, and usually after the prevailing tonality has been more or less exhausted. Under these circumstances the ear more readily follows any unusual progression.

Rossini was very partial to this expediency—so much so that he employed it in nearly all his operatic finales and Overtures! See Overtures to *Othello*; (after the return of the first subject);—*Tancredi* (the finale). *Semaramis* (end of first subject).

An illustration from a popular overture is quoted. The fourth resolution occurs after several periods in *A-major*:

Ex. 227. *Herold.*

The musical score consists of two staves. The upper staff is in treble clef and contains a melodic line with a wavy line above it, indicating a specific articulation or performance style. The lower staff is in bass clef and contains a harmonic accompaniment of chords. The key signature has one sharp (F#) and the time signature is 2/4. The piece concludes with the word "etc." written below the final measure.

The strain beginning in *F* is the same as that of the preceding in *A*, but after the avoided cadence it appears in a new light.

PART VI.

Chapter XXVII.

INVERTED BASES.

THEIR OBJECT AND EFFECT.

THE various close positions of major and minor concords and the re-arrangements of the dominant 7th chord have been presented and explained. It has also been shown that a concord or a discord has as many positions as notes.

Heretofore the movement of the base has invariably been fundamental, from root to root. In modern music, however, the base is considered equally important with the other parts, and it may therefore assume any position in a chord that its melodic progression requires.

The word Inversion has frequently been applied to intervals in the previous lessons, but in an Inverted chord the base has some other tone than the root. "Real-base," or actual base, serves to designate the lowest part of the harmony, and also to indicate that the base note is not a root-note. The simplest example occurs when the base part executes different intervals of a chord, thus:

Ex. 228.

Mozart.

f + + +

Sves

The solo in the base part consists of a chord motive. The other parts (violins, etc.) merely accompany the solo with the harmony of

D, indicated by the chord figure below. This idea is continued during the first sixteen measures of the Symphony (No. 23, B. and H.) and it would be well for students to examine and perform the entire passage.

A similar instance occurs at the end of periods in popular music, where the base passes through the different tones of the tonic chord while the upper parts sustain the same harmony :

Ex. 229. *Jos. Strauss.*

The figures (2) (1) indicate the inversions. This is so evident that no farther explanations seem necessary.

The management of inverted bases requires considerable practical experience and theoretical information, and for this reason their introduction has for so long a time been deferred.

When the base has the 3d of the triad it is customary to omit that note from the upper parts, thus :


Ex. 230. *Mozart.*

The soprano skips up a 3d, thus forming a counter melody to the base. The other parts remain stationary, as may be seen by arranging the example in this manner :

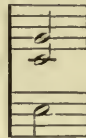
Ex. 231.

Aside from the two melodic parts, which here result from changing positions, the principal reason for omitting the 3d above when it

appears below is, that this interval determines the character of the chord (whether major or minor), and on account of its strength it becomes too prominent if doubled above.

If this interval Ex. 232.  appears to create a void in the

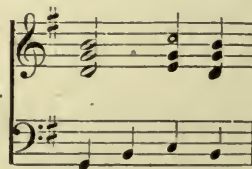
harmony on account of its ambiguity, the ear will experience an agreeable sensation in discovering the characteristic tone below, which completes the tonal effect :

Ex. 233. 

(1)

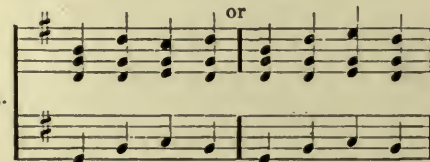
Perform the examples separately and listen to the effect. This characteristic quality of the 3d is stronger in major than in minor chords.

Another reason for omitting the 3d above when it occurs in the base is, that if the 3d be doubled this duplication is liable to result in false progressions, on account of the tendency of the two thirds to move in parallel movement. This is especially true in chord progression where the parts move alphabetically :

Ex. 234. 

(1) (1)

This results in consecutive octaves between the extreme parts, and should be avoided. There are several ways in which the same chords and the same base may be arranged correctly :

Ex. 235. 

(1)

The inversion is accompanied by a half-open position of the *G* chord, as a convenient method for avoiding the duplicated 3d. In the second measure the soprano and contralto parts move together at the distance of an octave, producing a counter-theme to the base. These octaves are not objectionable; in fact, both arrangements are decidedly preferable to Ex. 234. The only caution necessary is this: if these half-open positions be continued beyond the influence of the connecting tone (*g*, in last example) they will generally result in evil.

The fifth of a concord as real-base now claims attention. Nothing more need be said of bases that merely pass through the different tones of an unchanging harmony, except that such instances are numerous and effective.

In *Progression*, when the base occupies the fifth of a concord, the conditions are altered, and some care is required in its management.

There is an old thorough-base law to this effect, that "a $\frac{6}{4}$ chord must be followed by the dominant or dominant 7th harmony." This signifies that when the 5th of a concord is in the base, the latter remains and becomes the root.

Ex. 236.

(1) (2)

The 5th of the *C* chord in the base is somewhat out of balance, and the following dominant chord serves to restore the equilibrium; the base remaining as root and connecting-tone. This forms a part of the perfect cadence, as will be seen later.

The formula just quoted has been much used by composers, and though not now followed so literally as it once was, the student can not do better than adopt it until some other method is offered. The same directions apply to both modes.

The inversion of the chord of the dominant 7th is next in order. Any of its tones may occur in the base. Therefore the base is said to be inverted when the 3d, 5th, or 7th of the discord appears below instead of above. In each of these instances the base note is to be

* This might have been the dominant 7th.

omitted from the upper parts. The fundamental position may appear in any of these forms:

Ex. 237.

The first inversion is to be written with the 3d omitted above; so with the second inversion, and especially with the third, in which the 7th is below:

Ex. 238.

Observe that in each position the discord appears complete. The notes omitted above are supplied by the real-base below. Each of these measures is capable of being re-arranged in three positions:

Ex. 239.

Compare each upper position with the base.

Throughout all these inversions and re-arrangements the root, or fundamental remains C, the theoretical generator of the discord.

The resolutions of these inversions must now be undertaken. The directions remain in force so long as the resolutions are to tonic major or minor.

The 3d must be resolved up a 2d, and the 7th down a 2d without regard to the position of the discord. The 5th usually resolves down to the tonic. The only difference between base and treble parts is this, that the root in the base ascends a 4th or descends a 5th, whereas the duplicated root-note in any of the upper parts remains station-

° The figures 1, 2, 3 refer to the number of the inversion.

ary as a connecting link. The student may now proceed with the resolutions, of which a sample is given :

Ex. 240.

Major. Minor.

or

(1) (2) (3) (1) (1) (2) (3) (1) (3) (1)

With exception of the inverted bases there is nothing new in these resolutions. The third measure of the minor example shows a half-open position of the concord. But this merely results from the regular resolution of the 3d and the 5th (*e-natural* and *g*) to the tonic, as in the third measure of the major example. The contrary movement in the last measure is also good, provided the following progressions are in keeping with it.

Several examples similar to the last ought to be completed, some of which should contain resolutions of the re-arrangements. See Ex. 240. The third inversion is the most troublesome to manage properly, because its resolution leaves the concord either in an abbreviated form as here,

Ex. 241.

(3) (1)

or in a half-open position like this :

Ex. 242.

(3) (1)

In either case the inexperienced harmonist would be liable to encounter some difficulty in progressing beyond the second chord, which is likewise inverted. For the purpose of anticipating these difficulties a number of examples are offered in which the 7th appears as real-base :

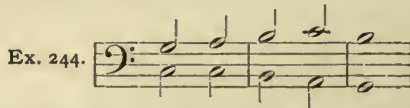
Ex. 243.

a. b. c.

(3) (1) (2) (3) (1) (2) (3) (1) (2)

+ + + + + + +

The first two exercises embrace a modulation to the sub-dominant and back to the original tonic. They are alike, excepting the treatment of the *C* chord with its 5th as real-base. This scheme, with various modifications, has been much used. At (b) there is no objection to the duplicated 5th in the *C* chord. Example (c) embraces a transition to the dominant. This contains two peculiarities. The *C* chord is followed by the *D* chord, each in the same position. But as no fifths appear, and as the base acts as connecting note, no objection can be raised against this. The second *c* in the base becomes 7th of the chord on *D*, and this is resolved correctly, although different in one respect from the other resolutions of a third inversion. The 5th of the discord ascends to the 3d of the concord, thus doubling that tone which the base is obliged to sound. But a good reason appears for the duplicated 3d. The mezzo-soprano part has a regular melodic progression, *g, a, b, c*, which accords well with the base. These two parts are presented:



In separating from each other they sound *b* simultaneously, and as this was necessary to the design, the temporary prominence of the major 3d in the middle of the progression is not objectionable. Besides, the other parts contribute to the good effect.

An important esthetic principle is here enunciated: the regular melodic progression of any voice-part may justify the most severe dissonances or the most unusual harmonic progressions which would otherwise be intolerable. Sequences also justify many transgressions of grammatical rules and harmonic precepts. The following extract may be explained in the same manner:

A. Scarlatti.

Ex. 245.

The image shows two staves of music. The top staff is in treble clef and contains a sequence of chords: G major, F major, E major, D major, C major, B major, A major, G major. The bottom staff is in bass clef and contains a sequence of notes: G, F, E, D, C, B, A, G. There are plus signs (+) between the two staves at the first, second, and third measures, indicating simultaneous sounds.

The base has a regular melodic progression upward, so have the other parts downward. That a duplicated 3d and duplicated 5th result, is not to be objected to, for the *design* is more important than the preservation of an arbitrary formula.

Another method of employing inverted bases, and one that is more easily reduced to practical theory, is the following: Whenever a modulation is made to the key a third below, the tone between the two tonics may be given the base. This tone is to be the 5th of the transition chord, and must of course be omitted from the upper harmony.

Suppose the pupil is writing in *F-major* and wishes to modulate to the 3d below. In elementary modulation the base moved from root to root:

Ex. 246.

But the tone between *F* and *D* being a part of the dominant 7th chord to *D*, may appear in the base, thus:

Ex. 247.

(2)

This gives to the base a distinct melodic progression, and is a considerable improvement upon Ex. 246. With all these transitions to the 3d below, this second inversion may be used, and in every instance the real-base will be the 5th of the discord. This tone is to be omitted above. The upper parts of the last example should be re-arranged in two other positions, without altering the base part.

* * *

A modulatory theme, with the treble parts added, is here presented to illustrate this theory. The student should write the base part. Every discord except the last appears in its second inversion:

Ex. 248.

Only such places as are marked + are to be real-bases; otherwise the base is to have the root of each chord. The solution of this will be included in the Key. The example should be re-arranged and transposed into several keys. * * *

When the modulations are to the 3d above, the same principles may be applied; but in these instances the real-base will be the 3d not the 5th of the discord. No connecting note appears between the discord and its antecedent; but when the modulation is from minor to relative major, the chord progression is easily managed:

Ex. 249.

(1) (1) (1)

The parallel fifths, *c—g*, *d—a-flat*, are allowable, because the first fifth is normal and the second is imperfect. The reverse of this order is not good. What adds most to the effectiveness of the first progression is the contrary movement of the octave, *c* to *d*, below and *c* to *b-flat* above. The resolution of the discord is perfectly regular. The figure 1 refers to the first inversion, the 3d of the discord being below, as real-base.

This example is shown in three positions, that the student may observe its different phases. The 3d and 5th of the triad ascend with the base, while the duplicated root-note above descends a whole step. The real-base must be a minor 2d below the resulting tonic, and in some places a chromatic alteration must be supplied by the student.

A theme and upper parts are presented as illustrations. The student is to add the base part according to the same principles that governed the previous example.

The real-bases are indicated. In these places first ascertain the root of the discord, then write the 3d in the base.

The note omitted from the treble part is thus supplied by the base:

Ex. 250.

+

Re-arrange the treble parts in two other positions. Transpose to *C-minor*, *D-minor*, and *F-sharp minor*.

One or two examples should also be worked out from the base. Such ground-work is here transcribed for the student to build upon.

Ex. 251.

The notes marked 7 are to be roots of dominant 7th chords. (1) signifies the first inversion of a dominant 7th chord, the 3d being in the base.

The following exercise, if worked out in various keys and positions, will be found useful:

Ex. 252.

Chapter XXVIII.

UNRULABLE PROGRESSIONS AND RESOLUTIONS.

THERE are so many seeming contradictions to the rules of composition that the author of this system has set forth as few as possible. Musical rule can exist only as a deduction from musical usage. The creative artists are the highest authority respecting the material of composition and its application. If Beethoven caused a 7th to ascend, it is the duty of the theorist to show *why* the composer did so; not to stand aloof and shake his head with the remark, "this is a violation of our rules!" This has always been the custom. Yet who made these rules? Were they engrossed and put forth by some one greater than Beethoven?

Directions concerning the resolution of a discord can not be given until it is known what application is to be made of this discord. When the chord that is to follow the discord is determined upon, as well as the situation in which both occur, then may certain precepts be followed to advantage. But there is an underlying principle that affords the solution of every musical problem, and that is: the object in view, or the esthetic effect desired.

Music students should endeavor to grasp these principles and apply them; not to imagine that the memorizing of rules and formulas will be sufficient.

The example illustrates a connecting note passing into another voice-part instead of remaining stationary:

Ex. 253.

This does not agree with the connecting-note theory, but it is unavoidable here. All that can be said against the progressions indicated thus — is, that they are not smooth and connected. It is unprofitable to look upon them as contradictions of a rule, especially since no error results. Though such progressions have been frequently used to advantage, the student must not conclude that the connecting-note principle is to be dispensed with.

In the great majority of progressions the previous directions will be applicable, and should be followed. But in harmonizing a theme ascending from the tonic, the most available method is that employed in the last example, in which the base moves contrarily to the other parts. If, however, smoothness and connection were desirable, the melody could be harmonized in this manner:

Ex. 254.

There is a connecting note throughout, in the mezzo-soprano part, and the base moves alphabetically. Each example serves a particular purpose, and the purpose must justify the method employed.

Here are other progressions of a character similar to those in Ex.

253:

Ex. 255.

At (a) three parts skip, while the mezzo-soprano part moves alphabetically. The same is true of (b). In neither case does the connecting note remain in the same part. It would be childish to condemn these progressions merely because they do not comply with the directions as to chord succession in general. At (c) all the parts leap a considerable distance. But the only change in harmony consists in the introduction of the 7th. Besides, the parts move in opposite directions. All these progressions are correct, though somewhat irregular.

The contrary resolution (progression) of the 3d and 7th of a dominant 7th chord is now in order. Take the 3d first. The rule is that it must *ascend a minor 2d* in going to the tonic chord. It may also *descend a 3d*.

In the middle of a strain, or wherever it is not desirable to make an authentic cadence, the 3d may descend to the 5th of the tonic chord:

Ex. 256.

The author's explanation of these seeming contradictions of musical rule is, that they are Progressions not Resolutions; that they occur in passages where the decisive, compulsory character of a direct resolution is not desirable, and that in such places they serve a distinct purpose. This must be understood as an intermediate, not a final application. The next example illustrates this:

Ex. 257.

In the first progression the 3d of the discord skips down to *g*, but in the last cadence this leading-note resolves regularly and naturally up to the tonic.

A similar liberty may be taken with the 7th of the discord. According to rule it must descend a 2d; it may also ascend a 2d, provided it is below the 3d, and that it occurs intermediately:

Ex. 258.

The musical notation for Example 258 consists of two staves: a treble clef staff and a bass clef staff. The treble staff contains three measures labeled 'a.', 'b.', and 'c.'. Measure 'a.' shows a progression of chords where the 7th of one chord moves up to the 5th of the next, creating a false progression by fifths. Measure 'b.' shows a progression where the 3rd of the first chord moves up to the tonic of the second chord, and the 7th moves up to the 5th. Measure 'c.' shows a similar progression. The bass staff shows the corresponding bass line for each measure.

At (a) there is a false progression by fifths, in addition to the irregular progression of the 7th up to the 5th of the concord. It should therefore be condemned. The parallel fifths are avoided at (b) and (c). The 3d ascends to the tonic, and these two progressions are allowable in an intervening passage, notwithstanding the upward movement of the 7th. The effect of these progressions is somewhat similar to that of the third resolution of the dominant 7th chord: they are both undecided, and lead us to expect something else. For these reasons the upward movement of the 7th may be excellent, and in place of condemning such progressions they may be entitled to more praise than a regular resolution. This presupposes that they occur elsewhere than in a final cadence, and that *progression*, rather than *resolution*, is the evident intention.

An example is now presented wherein these theories are illustrated by means of notation :

Ex. 259.

B. Godard.

The musical notation for Example 259 consists of two staves: a treble clef staff and a bass clef staff. The treble staff shows a single measure with a complex harmonic structure. The bass staff shows the corresponding bass line. The notation includes a key signature of one flat and a time signature of 4/4.

During the first full measure the 7th (*e-flat*) ascends to the 5th of the concord in order to preserve the harmonic sequence.

These are mere progressions occurring in the middle of a phrase where it is not desirable to resolve the discord decidedly. But at the close the 7th descends and the 3d ascends in regular order, leaving nothing to be desired, so far as harmonic completeness is considered. This example does not violate the rules, as theorists have supposed ; it merely serves to demonstrate the *particular application of rules*.

When the 3d of the discord descends the 7th should be resolved regularly; when the 7th ascends the 3d should resolve up a half step. Or, the 3d may be omitted when the 7th ascends. This will prevent parallel fifths, thus :

Fesca.

Ex. 260.

No objection ought to be raised against this, for it is excellent. An example from Beethoven is here quoted as a farther illustration of these irregular resolutions :

Op. 28.

Ex. 261.

In both instances the 7th (*e*) ascends. But this occurs in an intermediate progression, not in a final resolution. Hundreds of similar examples might be quoted.

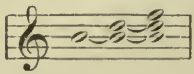
There is not much exercise work to be performed in connection with this chapter, but the student should read it by paragraphs until the substance is mentally digested. Each example might be transcribed into other keys as a farther means of reducing the theories to practical operation.

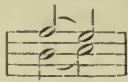
Chapter XXIX.


DISSONANT TRIADS—IMPERFECT, AUGMENTED AND DIMINISHED.

THE IMPERFECT TRIAD.

THOUGH the imperfect triad was excluded from the preliminary examples, its intervals are included in the essential 7th chord. Consequently but little remains to be explained.

This triad is founded upon the leading-tone of every major scale, and upon the super-tonic and leading-tone of every minor scale. It consists of two minor thirds, componently; or of a minor 3d and imperfect 5th: Ex. 262.  Not being a concord, it must be classified among discords, and some general directions will be given for its resolutions.

If it be considered as belonging to tonic major, the root should ascend and the 5th descend: Ex. 263.  These elements of

transition correspond to the 3d and 7th of the essential discord, which disappear in the same manner: Ex. 264.  The 3d usually descends a 2d. These are the most natural tendencies of the different tones toward resolution, though the triad has been used in various ways.

A few illustrations in three-part harmony are presented as the imperfect triad usually appears in this manner:

Ex. 265. 

In whatever position the dissonant triad may be placed it can be resolved in this manner without fear of impropriety. This is perhaps the best reason for following the above plan. The imperfect triad is indicated by a cross.

By assuming a melodic license the 3d may ascend a 4th or descend a 5th, provided the two elements of transition (root and 5th) resolve regularly:

Ex. 266. 

This supplies the remaining note of the tonic chord and is correct. Transpose each of these examples.

In four-part harmony the root or 3d may be used as base, and these notes may also be doubled—always provided that no improper progressions result. The 5th is seldom used as a real-base. An exception may be observed in Ex. 245.

In associating this triad with the minor of the tonic, the same observations will apply :

Ex. 267.

There is nothing new here, except the difference in mode. But when this imperfect triad is used in connection with *A-minor* the treatment should be different, as the tonic will be below the root. If this root-note in the base is moved down to the tonic, parallel 5ths will invariably result.

Ex. 268.


If the root be resolved up to *C*, the final chord will be recognized as that of *C-major*, not *A-minor*. The only remaining choice would be to lead the 5th (*f*) up a major 3d to the minor key-tone; for the 5th of a concord may be dispensed with, but a root can not be omitted without establishing in its place some other root. The example would appear like this :

Ex. 269.

These examples are sufficiently correct, but they partake of the nature of progression, rather than of resolution. The natural tendency of the *f* is to descend a minor 2d to *e*, and the skip up to *a* is therefore an expediency. But the imperfect triad founded on the leading-tone to *A-minor* corresponds exactly to that one used in Ex. 267. With this, no difficulty will be experienced, for there is here a note that resolves naturally to the tonic, and the other intervals disappear according to their melodic tendency without endangering the smoothness and correctness of the whole resolution :

Ex. 270.

Before dismissing this somewhat ambiguous triad, a few instances will be recorded in which it is treated in chord progression the same as a concord. That is, it may supply an accompaniment to that tone of the scale upon which it is founded :

Ex. 271. 

In each of the first three measures the imperfect triad takes its place among the perfect triads in order to carry out the sequence* indicated by the slurs. The fact that the dissonant triad ascends and descends without any fixed resolution shows that it assumes here the functions of a concord, which, of course, has no resolution. But at the close, after the sequence has been carried out, the dissonant triad is resolved as though its tones belonged to the essential 7th on C. The following extract from a favorite English song illustrates the same theory in a different manner :

Ex. 272. 

In the second and fourth measures of the accompaniment the imperfect triad is treated like the concords, these being progressions, not resolutions. Attention is also directed to the manner in which parallel fifths are avoided. The 5th between the base and lower treble part becomes a 6th before the base ascends from *c*. Then the *c* above, which now produces a 5th with the *f-sharp*, ascends to *d*. By moving these two parts alternately, false progressions are avoided.

*Sequence is the repetition upon different degrees of the scale of any figure or design considered as a model. The upper part during the first three measures constitutes a melodic sequence; the chords all being in the same position, constitute what is here called Harmonic Sequence.

The imperfect triad is frequently used in a minor cadence in place of the sub-dominant harmony :

Haendel.

Ex. 273

The 3d is doubled to avoid similar movement in the upper parts. Observe that the root (*b*) may descend when it appears above the 5th. The usual method is to use the 3d as a real-base :

V. E. Bach.

Ex. 274.

The imperfect triad becomes a sub-dominant harmony in this instance, *b* being substituted for *a* on account of the melody. The real-base is doubled above, but one *d* ascends to *e* while the other descends to *c*. The last example may be written in this form :


Ex. 275.

Care must be bestowed upon the re-arrangement of these dissonant triads. Transpose the last three examples into several keys.

THE AUGMENTED TRIAD.

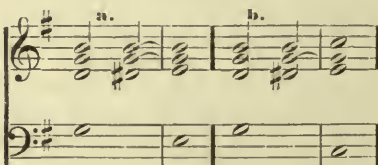
The word augmented, as applied to intervals, refers to the enlargement of a major or normal interval by one chromatic tone. This may be accomplished by sharpening the upper tone of the interval or flattening the lower tone. The former process is more common.

The 3d or 5th of a major chord may be augmented, but in this chapter the augmented 5th only will be considered. Select any major chord, and by sharpening the 5th an augmented triad will

result : Ex. 276.  The nature of this chord, containing as it does two major thirds, is harsh, and it has a strong tendency towards immediate resolution. The object of *d-sharp* is to ascend to *e*. The other two notes may remain, or the upper major 3d may ascend to *c* and *e*, while the root remains as connecting note. The two examples follow :

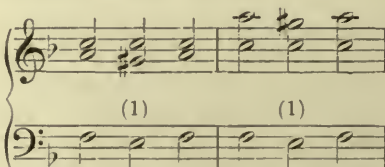
Ex. 277. 

The second of these resolutions is of more frequent occurrence, though both are useful. The base to these exercises is easily managed. In either instance it may proceed from root to root, as though the augmented interval did not appear :

Ex. 278. 

Arrange this in two other positions and transpose. (There is another mode of treating the base, but it can not properly be introduced here.)

The augmented triad, on account of its dissonant character, requires preparation. But as it is already prepared in the examples, any farther explanation of this subject may be left to a future chapter. Frequently the 3d of the augmented triad is used as a real-base, that tone being omitted above :

Ex. 279. 

In four-part harmony the root, 5th or base may be doubled ; making two treble and two base parts. Rubinstein has even given the augmented 5th to the base and with charming effect, as this quotation will prove :

BALLET MUSIC FROM "FERAMORS."

Ex. 280.

The augmented 5th is included in the middle part in order to preserve this design in the accompaniment:

Ex. 281.

The full effect of the augmented triad on the second beat of measures 1 and 3 is also more satisfactory and complete than if the upper *d-sharp* had been omitted.

THE DIMINISHED TRIAD.

Theorists are agreed that a diminished interval is one chromatic step smaller than a minor interval. Therefore diminished presupposes minor, but with regard to this interval: Ex. 282.

which is generally called a diminished 5th, there is a contradiction to be noted. By enlarging this so-called diminished 5th one chromatic step the result should be a *minor* 5th in order to make the theory consistent. But these fifths: Ex. 283.

have never been called minor. The old theorists called them "perfect," though in strict designation they are not absolutely pure. For this reason Weitzmann terms them "major fifths." Riemann says they are "standard fifths." But since these intervals are the same in both modes, as well as by inversion, the author has applied the term Normal to the 4th and 5th of every normal scale. For this interval:

Ex. 284. the most appropriate name seems to be Imperfect.

It might be called minor, but it can not consistently be called diminished. By flattening the *f* or sharpening the *b*, a diminished 5th

will result. This interval has been used and will be included hereafter among altered intervals.

The same process is carried out in forming a diminished 7th or a diminished 3d, thus :

Ex. 285.

Maj. Min. Dim.

Maj. Min. Dim.

Detailed description: Example 285 shows two rows of musical notation. The first row shows three triads: Major (C-E-G), Minor (C-Eb-G), and Diminished (C-Eb-Gb). The second row shows three triads: Major (C-E-G), Minor (C-Eb-G), and Diminished (C-Eb-Gb). Each triad is shown in a treble clef with its constituent notes and accidentals.

The diminished triad is now resumed. This will be formed from a minor triad by raising the root : Ex. 286. From *a-sharp* to *c* is a diminished 3d, and from this the triad is called diminished. In this position the parts are brought so near together that it is not favorable to practical application. The root, or the middle note, may be inverted, thus securing a better position. With regard to the resolution, two of the notes have a fixed progression to the unison *b* :

Ex. 287.

Detailed description: Example 287 shows a single treble clef staff. It starts with a diminished triad (A-sharp, C, E-flat) and then shows a resolution where the notes move to a unison B.

The 5th of the triad may descend a whole or a half step :

Ex. 288.

Detailed description: Example 288 shows two staves, treble and bass. The treble staff shows a triad (C-E-G) and its resolution where the 5th (G) descends to F. The bass staff shows a triad (C-E-G) and its resolution where the 5th (G) descends to F-sharp.

The former is more unusual, and for this reason seems less satisfactory. However, as it is sufficiently correct it may serve a purpose.

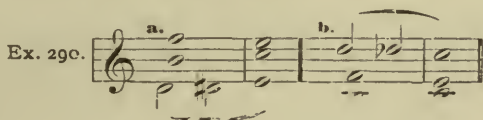
Transpose the last example, using both resolutions.

A diminished triad may also be produced by raising or lowering the 3d of an imperfect triad. In the first instance the upper 3d appears diminished ; in the second instance the lower 3d is diminished :

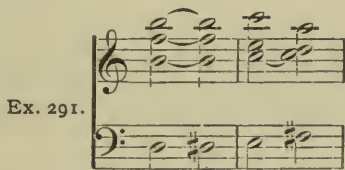
Ex. 289.

Detailed description: Example 289 shows a single treble clef staff with two triads. The first triad is C-E-G with a plus sign below it. The second triad is C-Eb-G with a plus sign below it.

An open position is more favorable for these discords, on account of the ascending and descending tendency of the extreme parts :



At (a) the 3d is placed below, as a real-base ; at (b) the root remains below. The latter is more satisfactory, and accordingly more useful. The resolution at (a) is so ambiguous as to suggest some continuation beyond this point, as :



The discord is, therefore, an intermediate one, and not suited to a final close. The same may be said of the discord at (b) and its resolution, though this is more satisfactory, at least in a mere theoretical exercise, where the ulterior design does not appear.


Transpose the last two examples. The latter should be continued to a satisfactory close by adding two or three measures.



PART VII.

Chapter XXX.

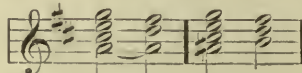
ORIGIN AND PRINCIPAL RESOLUTION OF THE
DIMINISHED SEVENTH CHORD.

BY sharpening the root of any dominant 7th chord there results a diminished 7th chord; as any minor interval lessened by one chromatic step becomes diminished: Ex. 292.  From

the root to the highest note of the first discord (*a* to *g*) is a minor 7th; *a-sharp* lessens the interval and makes it diminished. The 3d, 5th, and 7th of the dominant chord remain stationary as parts of the next discord, while the base is raised one chromatic step.

The chromatic alteration of the first discord changes its name, nature, and resolution, and results in a principal diminished 7th chord upon *A-sharp*. The latter consists of a minor 3d, imperfect 5th and diminished 7th; or, a compound of three minor thirds.

The first discord belongs to *D-major*, the second to *B-minor*:

Ex. 293. 

The roots of the two discords represent the difference between the scales of the two modes, *D-major* and *B-minor*.


The natural resolution of the diminished 7th chord is to the minor concord founded a minor 2d above the root of the discord. The root of the diminished 7th chord is the leading-tone of the key to which it naturally resolves. This is one of the strongest arguments in favor of the harmonic minor scale, as a characteristic series

of tones; for the *diminished 7th chord and its principal resolution* comprise every tone in the scale, thus :


Ex. 294. 

As the diminished chord occurs in this scale only, it may be concluded that it belongs naturally to *A-minor*. Observe that the diminished 7th chord contains both elements of transition (leading-note and sub-dominant) to *A-minor*.


The student should now write a diminished 7th chord in each of the fifteen keys. In every instance the diminished 7th is to be derived from the dominant 7th chord. Write the signature of each key in regular order, and locate the dominant 7th discord upon the

5th degree of the major scale: Ex. 295.  Each example is to begin in major and terminate in the relative minor. The minor concords are to appear in their first position.

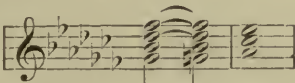
The next example in regular order follows :

Ex. 296. 

Proceed with the remainder as directed. When the root of the first discord is sharpened by the signature it will be necessary to use a double sharp for the root of the second discord, example :

Ex. 297. 

The example in *C-flat* will correspond to the one beginning in *B-*

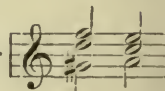
major: Ex. 298.  These are enharmonic equivalents. * * *

This is not the only derivation of the chord. It is also a product of the harmonic minor scale, and may be entirely independent of an essential 7th chord. This will appear hereafter.

The principal resolution of the diminished 7th chord will now be considered. The root, being the leading-tone to the key in which it belongs, ascends a minor 2d; the 7th must descend a minor 2d (because there is no other interval of the tonic triad to which it will

resolve); the 5th of the diminished chord is the sub-dominant, and must descend a major 2d.

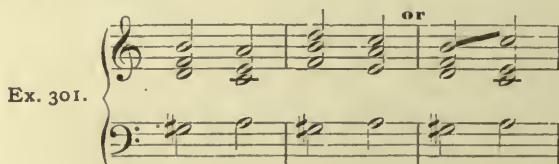
Here are the three most important notes : Ex. 299.



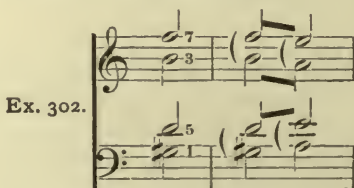
The 5th of the diminished 7th chord must, accordingly, be treated the same as the dominant 7th to the same key, because this note (A here) has the same relationship in both chords :



The white notes show the two elements of transition, and their resolution, first in the diminished, and then in the corresponding dominant 7th chords. The black notes show that while the 7th of the diminished chord descends to the 5th of the concord, the root of the dominant 7th chord remains stationary. (Compare (a) with (b), Ex. 300.) The leading-note at (a) is the root of the discord; at (b) it is the 3d of the discord; but as both are transition chords to *A*, both elements of transition must be treated alike. The 3d of the diminished 7th chord, like the 5th of the dominant 7th chord, has no decided, fixed resolution, but may ascend or descend, according to the position of the chord :



The intervals which have a fixed resolution are indicated in Ex. 299. By analyzing the discord it will be found to contain two intervals of a 5th, from 1 to 5 and 3 to 7 :



Consequently if either of these fifths be resolved in similar movement parallel fifths will result, as in the second measure. There

fore, whenever the fifths appear, they must be resolved in contrary movement, as here :

Ex. 303.

This is correct. The parts that move in similar directions are situated a 10th from each other, thus: 1 and 3, 5 and 7. By resolving the principal intervals of the discord (root, 5th and 7th) as directed, no false progressions can result in any position. But when the 7th is uppermost the 3d must ascend. When the 3d or 5th is uppermost the 3d may (and generally does) descend to the tonic. The two positions most available for present purposes are these :

Ex. 304.

The upper 5th (as *f-sharp* and *c*) appears in both measures as a 4th. Therefore the 3d or 5th of the diminished chord is to be in the melody whenever the chord is used in its principal resolution.

It is not advisable at present to invert the base. As a preparation for the following chapter, transpose the last example into several keys.



Chapter XXXI.

NATURAL MODULATIONS TO RELATED MINOR
KEYS BY MEANS OF THE DIMINISHED
SEVENTH CHORD.

ANOTHER MODE OF TRANSITION.

THE chord of the diminished 7th affords another means of transition to the related minor keys. The classification of these here follows:

Ex. 305.

The example consists of two staves, labeled 'a.' and 'b.', each containing three measures. Staff 'a.' shows dominant 7th chords for the major triads C, F, and C. Staff 'b.' shows the corresponding diminished 7th chords for the minor triads c, f, and c. The diminished 7th chords are positioned directly below their respective dominant 7th counterparts. The notes in the diminished 7th chords are: for C7 (C, E, G, Bb) the diminished 7th is C, Eb, F, Ab; for F7 (F, Ab, C, Eb) the diminished 7th is F, Ab, Bb, C; and for C7 (C, E, G, Bb) the diminished 7th is C, Eb, F, Ab. The numbers 1, 2, and 3 are placed above each measure in both staves.

The upper staff here contains the three dominant 7th chords to the three major triads; the lower staff contains the three diminished 7th chords to the three minor triads. Each minor triad below is the relative of the major triad above.

Compare the exercises vertically: 1 (a) with 1 (b), 2 with 2, and 3 with 3. Each diminished 7th chord is the natural consequent of the antecedent dominant 7th chord above it.

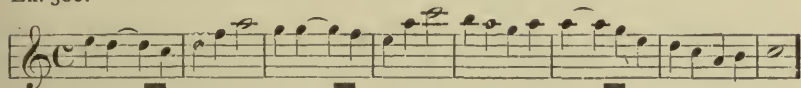
The three diminished 7th chords representing the three related minor keys to the normal scale of *C* are, strictly speaking, the only diminished 7th chords in music, all others being mere enharmonic alterations of these primary chords. Consequently it is important that the pupil should acquire thorough control of these discords.

As already ascertained, the positions of a diminished chord best adapted to present requirements are those in which the 3d or 5th is uppermost. In employing the diminished 7th chords in the following harmonization introduce the antecedent dominant 7th chord before each diminished chord.

The difference between the two discords is in the roots; the 3d, 5th and 7th remaining the same.

This melody contains transitions by means of diminished 7th chords to the three related minor keys:

Ex. 306.



The first chord may be either *C-major* or *E-minor*, the second must be a dominant 7th, the third must be the consequent diminished 7th, and the fourth chord must be a minor triad founded a minor 2d above the root of the diminished 7th chord. The dashes show where the resolutions of the diminished 7th chords take place. If the student requires a chart for the harmonization of this theme, Ex. 305 may be consulted. It would be well, however, to write without a chart, if possible.

The repeated notes are to be considered as connecting notes.

* * *

The only unusual progression in the harmonization occurs in the third measure. There is but one concord which can properly accompany the first *g* of the third measure. From this triad to the following dominant 7th chord involves a progression not heretofore employed,—though there are two connecting notes.

As the base *ascends* a second in all the resolutions of the diminished 7th chords, the treble parts must all *descend*. No connecting note appears in the principal resolution of a diminished 7th chord, therefore contrary movement is in keeping with previous directions. (This is not to be re-arranged.) Transpose into *G*, *B-flat* and *A-flat*.

An illustration of the facts to be comprehended appears in the following chart in *A-flat*:

Ex. 307.



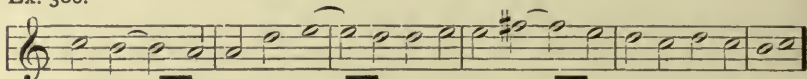
The dominant 7th chord marked 1 represents the key of the major triad with a corresponding number. So with 2 and 3. The diminished 7th chords numbered 1, 2, 3 represent the same keys as the minor triads whose numbers are the same. Also, the antecedent of each diminished chord is its corresponding number among the dominant 7th chords. 1 among the diminished chords is derived from 1 among the dominant 7th chords. The numbers and the chords correspond in four different ways, the last of which will be men-

tioned: The minor triad marked 1, is the relative of the major triad marked 1; and the same may be said of the other triads: their numbers correspond to each other.

Examine Ex. 307 attentively, and re-read the explanations following the example. Also transpose the chart into several keys.

One other simple theme is presented in order to illustrate another position of the diminished chords:

Ex. 308.

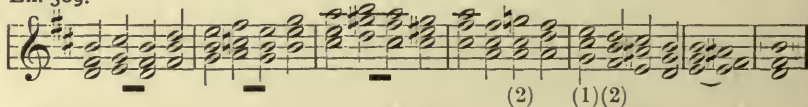


The dashes indicate the resolution of the diminished 7th chords. Begin and end in *C-major*. Transpose to *D* and *E*. * * *

The next exercise (mostly in minor) introduces the diminished chord without its antecedent dominant 7th. The diminished chords are here introduced independently, but their resolution remains the same.

The student should complete the harmony by supplying the base:

Ex. 309.



The dashes indicate the three diminished chords resolving to the three minor chords in this key. Real-bases are to be included at (2) and (1). The first chord in the fifth measure is to be an imperfect triad with the 3d in the base. During the last of this measure an avoided cadence is outlined. This postpones the final cadence until the very last of the example.


Transpose the theme alone into *C-minor* and *B-flat-minor*, and harmonize it in similar manner.




Chapter XXXII.

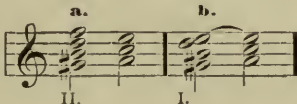
DIMINISHED AND CORRESPONDING DOMINANT SEVENTH CHORDS.

THE two principal discords which represent a given key are already familiar. One is founded upon the leading-tone of a minor scale; the other upon the 5th of a major or minor scale. Three notes of one chord occur in the other. The root, 3d and 5th of the diminished 7th chord are the same as the 3d, 5th, and 7th of the dominant 7th chord to the same key. They are presented together:

Ex. 310.  Each chord appears in its fundamental position in order to show its formation; but it would not be proper to employ them in this manner. The rules of progression will aid in this matter. As the diminished chord is to come first, write this and

tie the three connecting notes: Ex. 311.  After this it

is apparent that the 7th (*f*) descends a minor 2d to *e*. This will change the root from *G-sharp* to *E*, as another kind of a discord results. There is therefore a difference of but one tone between the two chords. Since the second discord belongs to the same tonic as that of the first, the author names the second chord in Ex. 310 the Corresponding Dominant 7th. The natural resolution of each discord will show the propriety of this nomenclature:

Ex. 312. 

The first is a principal diminished 7th chord resolved to its tonic minor; at (b) the Dominant 7th chord corresponds to the diminished chord. This also is resolved to its tonic minor, and as both resolve to the same minor triad they are corresponding discords, having three tones in common.

The student is cautioned against confusing the corresponding

dominant 7th chord with the antecedent dominant 7th. These, with the diminished chord in the center, are as follows :

Ex. 313.

The illustration shows three chords on a single staff in treble clef. The first chord is a dominant 7th chord (F major 7th), the second is a diminished 7th chord (F minor 7b9), and the third is a corresponding dominant 7th chord (C major 7th). The notes of the first and third chords are connected by curved lines, showing their relationship. The second chord is positioned between them.

The antecedent discord belongs to *C-major*; the consequent diminished 7th to *A-minor*; the corresponding Dominant 7th to *A-minor* or *A-major*.

The student is to write a diminished 7th chord on the leading-note of every minor scale followed by its corresponding dominant 7th and the final resolution to tonic minor.

The next would be to *E-minor*. The leading note is *d-sharp*, and the diminished chord is to contain three minor 3ds. Retain the root, 3d and 5th, move the 7th down a minor 2d and the corresponding dominant 7th chord will result. This is resolved to tonic minor and the example is complete. See illustration :

The illustration shows a diminished 7th chord (E minor 7b9) resolving to a corresponding dominant 7th chord (B major 7th). The root of the diminished chord (E) becomes the 5th of the tonic triad (B major). A circled number (1) is placed below the staff, indicating the first inversion of the corresponding dominant 7th chord.

The figure (1) indicates the first inversion of the corresponding discord. Observe that there is no connecting note between a diminished chord and its tonic resolution; whereas the root of the corresponding discord becomes the 5th of the tonic triad. This connecting note offers an advantage in final resolutions which is the principal reason for using the corresponding dominant 7th chord.

The next key is *B-minor*. The root of the diminished chord will be *a-sharp*, the leading tone to *B*. Build the chord, change it to a corresponding dominant 7th, and resolve naturally to tonic minor.

The next key will be *F-sharp-minor*; then *C-sharp-minor* and so on, till all the minor keys have been represented. Include the signature to each key. * * *

By writing the enharmonic equivalent of *D-sharp-minor*, the student will be enabled to complete the cycle of minor keys by fifths, *E-flat*, *B-flat*, *F*, *C*, *G*, *D*, *A*. The corresponding dominant 7th chord is to disappear in the manner already explained, this being the second of the four resolutions. Direct Cadence and Terminal Resolution are therefore synonymous. Examples for comparison may be found in the Key.

Chapter XXXIII.

THE DIMINISHED SEVENTH CHORD INVERTED.
APPLICATION OF THE CORRESPONDING
DOMINANT SEVENTH CHORD. IN-
TERMEDIATE AND TERMINAL
RESOLUTIONS.

IN order to show the results of inverting a diminished 7th chord, and the necessity for introducing a corresponding dominant 7th, the different inversions will be given. Suppose we begin with this chord:

Ex. 315.

B

Its natural resolution is here indicated, and as the root of the concord is in the base it may be considered a final resolution.

Write the 3d of the discord as a real-base, omitting that note from the upper parts, as here:

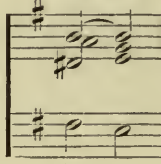
Ex. 316.

(1)

Each note of the discord is to be resolved according to previous instructions, the 3d alone having the privilege of ascending or descending, according to circumstances. Here it must resolve up in the base to prevent parallel fifths. The root, 5th and 7th all disappear according to formula. The result to be particularly noticed is, that the concord also appears inverted, the 3d being in the base. And as the final concord must appear uninverted the author con-

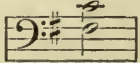
siders this an Intermediate Resolution. The harmony can not stop here, but must continue until the tonic chord appears with its root in the base. In this work resolutions are classified as Intermediate and Terminal. The last example must therefore be continued. The briefest way out of the difficulty is this:

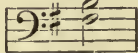
Terminal.

Ex. 317. 

(2)

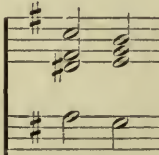
The first chord is what the author calls the Corresponding Dominant 7th to the previous diminished 7th chord. The latter belongs to *E-minor*, the former belongs equally to *E-minor* or *E-major*. The last discord resolves direct to the *E-minor* triad uninverted, because no 5th appears above the real-base; therefore its resolution is not

restrained, the 5th Ex. 318.  having become a 4th:

Ex. 319.  The figures in the base refer to the position of

each chord when inverted. The last discord appears in its second inversion. In Ex. 316 both discord and concord were inverted.

The second inversion of the diminished chord is now selected for resolution. It must result in this form:

Ex. 320. 

(2) (1)

Here again the concord appears inverted, for the 5th of the discord (a) must resolve down a 2d to the 3d of the concord. (See figures 2 and 1). Accordingly this is an intermediate resolution, and must be followed by a terminal resolution. As it is not well to skip from an inverted base, it is natural to choose the *f-sharp* as leading melodically down to the tonic. The final cadence will thus be the same as

in Ex. 317. (Perhaps the fact should again be noted that the duplicated minor 3d is not objectionable when it results from the resolution of two different parts to the same tone of the concord, both voices moving in opposite directions. The real-base (*a*) must descend to *g*, and the *f-sharp* above also resolves to *g*, to prevent parallel fifths with the *c* above.)

The third and last inversion of the diminished chord comes next. Omit the 7th from the upper parts and proceed to resolve each note as explained. Cause the most important notes of the discord (1, 5, 7) to disappear first, because their resolution is prescribed. * * * The result should be as follows:

Ex. 321.

(3) (2)

The *f-sharp* might have gone down to *e*, as no 5th appears above the former note. The resulting triad is shown to be in its second inversion. Certainly it can not rest upon this. The old thorough-base formula may be employed as to the treatment of a $\frac{6}{4}$ chord; *i. e.*, retain the real-base as root of the dominating harmony, either with or without the 7th. Complete this terminal cadence, ending with *E* in the base. * * *

As there are two equally proper methods of accomplishing this result they are presented for reference:

Ex. 322.

As a final ending there is no particular choice between these. (One of these is supposed to be joined to Ex. 321.)

In order to master this subject it will be necessary for the student to re-arrange each example in the upper parts, without altering the real-base.

An outline of this exercise is here given, to be filled in by the pupil:

Ex. 323.

A *

(1) (1) (1) (2)

(2) (2) (3) (3) (3)

The first measure shows the transition chord in its original position. As this resolves to the tonic minor triad uninverted, it is not here necessary to work this out by means of the corresponding dominant 7th. It is included to show the chord selected for illustration. At (a) the first inversion is to be resolved to tonic minor according to directions. This will be an intermediate resolution, and, per consequence, the corresponding dominant 7th chord is to be introduced in the following measure and resolved as a terminal cadence. The next example (b) is the same inversion re-arranged above. In each instance the resolutions are similar, with exception of the 3d of the first discord, which may descend a whole step when it does not form a 5th with the base or any upper part.

The root, 5th and 7th of the diminished chord have fixed resolutions, and always disappear in the same manner, without regard to position or inversion. This fact simplifies the task considerably. Each example, as (a), (b), or (c), is to be complete in itself, and the last chord of every example is to be that of *A-minor*, with its root in the base. The entire *modus operandi* has already been explained and illustrated with the diminished chord on *D-sharp*. Students will therefore have no trouble in completing the outlines furnished by Ex. 323. * * *

The third diminished 7th chord should now be taken for similar illustration: Ex. 324.

C

The inversions will consist of *e*,

* The present intention is to work out merely the three primary diminished 7th chords, A, B, and C.

g, and *b-flat* in regular order as real-bases. Each inversion is to include three close positions in the upper parts as explained. The immediate resolution of the diminished chord, in whatever inversion, will result in an inversion of the concord. These intermediate resolutions must be followed by terminal resolutions. The means employed are the same: a corresponding dominant 7th ending with the tonic in the base.

There is a difference of but one note between the two principal discords herein employed:

Ex. 325.

(1)

Compare the two discords first, and then their respective resolutions. In the second measure *e* may descend to *d*, but in the first it must ascend to *f*.

The example, when completed, ought to correspond exactly to the other two illustrations, A and B.

The student should finish this task.

Chapter XXXIV.

THEME FOR HARMONIZATION, ILLUSTRATING INTERMEDIATE AND TERMINAL RESOLUTIONS. FARTHER VIEW OF INVERTED BASES.

ACCORDING to the previous lesson, all resolutions of a principal discord are intermediate when the resulting concord appears inverted. Therefore, when the 3d or 5th of a concord occurs as real-base we must proceed until a terminal resolution is effected. The reason for this is, that the base is the foundation of harmony, and in the final cadence the root of the tonic chord must appear in the

base in order to produce a sense of repose or completeness. Any note of the tonic triad may appear uppermost and leave a satisfactory impression, provided the chord reposes upon its root. The diminished chord was selected as illustrating this principle, for all its inversions resolve to an inverted concord. But the dominant 7th chord is less subject to this influence; and, as a matter of fact, its root, 3d and 5th may resolve direct to the tonic, and thus constitute a terminal cadence. An example of this is appended:

Ex. 326.

Ex. 326 shows a resolution of a diminished chord to a tonic triad in three different ways (a, b, c). The upper part is in treble clef and the lower part is in bass clef. The key signature has one flat. The chords are: a. Diminished triad (F, A, C) resolving to tonic triad (F, A, C); b. Diminished triad (F, A, C) resolving to tonic triad (F, A, C); c. Diminished triad (F, A, C) resolving to tonic triad (F, A, C). The bass part shows the resolution of the 3rd, 5th, and root of the diminished chord to the 3rd, 5th, and root of the tonic triad, respectively, with circled numbers (1) and (2) indicating the resolution of the 3rd and 5th.

Observe particularly that the tonic appears in the base in each instance, and yet the discord is resolved strictly according to formula. The only inversion that results in an intermediate resolution is the third. The tendency here to resolve down to the 3d of the concord is too strong to be ignored:

Ex. 327.

Ex. 327 shows a resolution of a diminished chord to a tonic triad in two different ways (3, 1). The upper part is in treble clef and the lower part is in bass clef. The key signature has one flat. The chords are: (3) Diminished triad (F, A, C) resolving to tonic triad (F, A, C); (1) Diminished triad (F, A, C) resolving to tonic triad (F, A, C). The bass part shows the resolution of the 3rd, 5th, and root of the diminished chord to the 3rd, 5th, and root of the tonic triad, respectively, with circled numbers (3) and (1) indicating the resolution of the 3rd and 5th.

This must continue until a more complete ending is reached, as here

Ex. 328.

Ex. 328 shows a resolution of a diminished chord to a tonic triad in two different ways (a, or b). The upper part is in treble clef and the lower part is in bass clef. The key signature has one flat. The chords are: a. Diminished triad (F, A, C) resolving to tonic triad (F, A, C); or b. Diminished triad (F, A, C) resolving to tonic triad (F, A, C). The bass part shows the resolution of the 3rd, 5th, and root of the diminished chord to the 3rd, 5th, and root of the tonic triad, respectively, with circled numbers (3), (1), and (2) indicating the resolution of the 3rd, 5th, and root.

Both phrases are correct. The skip of a 4th in the upper part at (a) is desirable, as no other part skips. At (b) the major 3d is doubled but this results from the melodic progression of the theme moving

contrarily to the base. Such duplications are theoretically and esthetically correct.

There is another resolution of this third inversion, in which the 5th of the discord ascends a 4th. As the base does not skip, the soprano may assume this privilege and skip from 5th to 5th.

Beethoven.

Ex. 329.

(3) (1) (2)

In addition to the connecting note the 3d and 7th of the discord are resolved most naturally, and no fault occurs as a result of this unusual progression. Besides, the half-open position of the *B-flat* chord is very agreeable. A similar instance may be mentioned in connection with the following :

Ex. 330.

(2) (1) (2)

Observe the final resolution: *a* in the base and *c* in the mezzo-soprano part descend to *g* and *b-flat*. These, being tenths, are always euphonious; the leading note ascends a minor 2d, thus avoiding fifths with the *c* above. The soprano part skips from dominant to tonic, root to root. In this instance the base moves alphabetically. Usually this is more effective than to retain the 5th above in the last chord. (The figures indicate the inversions, and the fermata \frown shows where the cadence is complete.)

The last four examples should be transposed until the student is familiar with these applications. * * *

Before presenting the illustrative theme, attention will be called to the fact that the corresponding dominant 7th may be introduced before the diminished chord is resolved to its tonic. The previous method will be presented first :

Ex. 331.

The diminished chord is resolved to the tonic triad in the second measure, the 5th being in the base. This necessitates another and more final resolution. But by introducing the corresponding 7th chord on the last of the first measure it may resolve directly to the tonic chord, and so end :

Ex. 332.

This is more brief, but is not materially different from the exercise in Chapter XXXII.

The 7th of the diminished chord resolving down a minor 2d to the root of the corresponding dominant 7th chord may occur in a variety of the parts, though the resolution will not always be terminal, as in the last example. With the 5th of the diminished chord in the base the result will not be altered by introducing the corresponding dominant chord, because that interval becomes the 7th of the second chord. In either case its resolution is to the 3d of the concord :

Ex. 333.

The result is an intermediate resolution as though the second discord had been omitted. With the 3d of the diminished chord the result is different :

* The Roman numerals indicate the kind of discord.

Ex. 334.

At (a) the concord appears inverted, and is, accordingly, intermediate. But by introducing the corresponding discord at (b) the resolution is directly to tonic. The explanation is, that the 5th between the base and soprano in the first discord is changed to a 4th in the second discord. These results will be the same in the various positions of this inversion. These should be written by the student. * * *

A theme will now be presented in which the newly acquired information is to be applied :

Ex. 335.

In supplying the middle parts of the harmonization one should be governed principally by the base. The figures apply only to inverted chords, *b* being numbered (2) signifies that the root is a 5th below. Therefore the 7th is in the melody, and as this is to be a dominant 7th chord the remainder is easily supplied. The Roman numerals indicate the antecedent, diminished, or corresponding dominant 7th chords in this order :

I refers to an antecedent, followed by a consequent discord whenever the numerals I, II follow each other successively.

II always refers to the diminished chord.

I following II indicates a corresponding dominant 7th.

In moving the base to or from an inversion it is advisable to preserve as much as possible a melodic progression in that part. This is equivalent to the remark that the base must not skip excessively from root to root. In the present exercises this is unexceptionably true, and as these independent melodic progressions in the base part are generally attractive and afford variety to the fundamental bass, it would be well to cultivate them, especially since their proper management is much more difficult than the original base movement from root to root. But this is intended neither as a rule nor a prohibition. It is simply a direction for the student's present guidance. The other arrangements should be made from the last example, without altering the base part. Transpose into various keys.

The design, though occupying only a short period, is comprehensive, and the author considers it worthy of thorough treatment. The solution may be found in the Key.




PART VIII.

Chapter XXXV.

PRINCIPAL AND SECONDARY SEVENTH DISCORDS. THEIR ORIGIN, APPLICATION, AND EFFECT.

THE dominant and diminished 7th chords are to be classed as Principal discords. That is, they contain the elements of transition, and when resolved naturally are capable of performing a decided terminal cadence. Nearly all 7th chords in a given key are secondary. These lack the modulatory elements and are incapable of effecting a modulation or of performing a cadence.

A 7th chord is built upon every degree of the normal scale :

Ex. 336. 

Here are five species of discord. I and II we know to be transition chords. The remainder will be classified in this manner: The discord founded upon the tonic contains a major 3d, normal 5th and major 7th. This is the harshest of all the 7th chords. Number it V.

Is there another discord in this scale of the same species? What is it? This should also be numbered V. The discord founded upon the second of the scale contains a minor 3d, normal 5th and minor 7th. This is less harsh, and is numbered IV. Are there other dis-

cords in the example containing the same intervals? If so, they belong to the same species, and are to be numbered identically. The chord upon the 7th of the major scale is still less discordant. It is numbered III. It consists of a minor 3d, imperfect 5th and minor 7th, and may be used as a secondary or as a principal discord.

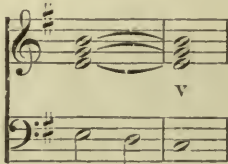
The diminished chord comes next. This is an agreeable discord, and is numbered II, as in a former chapter. It can be used in a major key, but it occurs naturally in the harmonic minor scale. Hence it is included among the unaltered discords.

The most agreeable of all discords (so-called) is the one founded upon the 5th of the scale, the familiar dominant 7th chord. This was the first discord explained, and being the most important it is numbered I. Corresponding Roman numerals should be written above each chord in Ex. 336.

The discords marked V are so harsh, if sounded independently, that they must be submitted to some process of preparation. As this is explained elsewhere, the author will merely give directions concerning the present application of these dissonances. The dis-

sonant interval is the major 7th: Ex. 337.  and, as with-

out the 7th there results a consonant major triad, it may be concluded that the *b* is the disturbing element. In order to prepare the ear for this dissonance, begin with a consonant chord containing *b*, and gradually introduce the *c* either above or below:

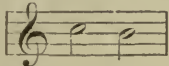
Ex. 338. 

The base begins with a consonant root-note and moves down by natural degrees. The first step results in a moderate discord, duly prepared. The second step (*d* to *c*), though perfectly natural, results in a discord of the fifth species. But the suspended notes above, together with the objective progression of the base part, have a tendency to ameliorate the dissonating effect of this harsh combination. And what is more important, the base, progressing by scale-like degrees, while the other parts remain passive, presents a distinct object in what transpires, and is its own *raison d'être*.

The dissonant interval may be introduced above by causing the upper voice-part to descend a half-step, while the lower parts, as consonances, remain stationary :

Ex. 339.

The first chord is purely consonant, and while the three lower parts are retained, the soprano merely descends a minor 2d. Any dissonance, however harsh, would be justifiable if produced in this manner, on account of the seemingly slight difference between the consonant and dissonant harmonies. This difference, though theoretically very great, is merely what is heard or perceived in this example,

Ex. 340.  while the same fundamental harmony pre-

vails. These principles will apply to all harsh combinations, though the author doubts the propriety of preparing discords in general.

Before proceeding, attention is directed to the fact that in both the previous examples three notes remain passive while one moves alphabetically. This plan will be followed in the practical application of these discords.

Each of the secondary 7th chords (including the secondary transition chord on the 7th of the scale) should be inverted, as students must be familiar with all positions of these discords. Omit the base note from the upper parts. One of these is presented as a sample :

Ex. 341.

The V shows the species and the figures indicate the inversion. Follow the same plan with the other inverted discords.

A brief illustration will be given of the manner in which these secondary discords are to be utilized :

Ex. 342.

V IV III I

(3) (1) (2)

At V a harsh discord results in the manner already explained. From here the degree of dissonance is gradually reduced by moving only one part at a time until the dominant 7th is reached. This is an euphonious discord. Number II is omitted, being unnecessary here. In progressing from one concord to another, or in resolving the essential 7th chord, one connecting note is sufficient.

Re-arrange this in the upper parts and transpose, as it is preliminary to what follows.

In harmonizing the following theme three notes are to be tied in each succeeding chord of the dissonant progressions. The moving notes may occur in any voice-part, above or below. Real-bases are not to be duplicated here, and in the dissonant chords even the root-tone must not be doubled. (See inversions, Ex. 341.)

Ex. 343.

a.

IV V IV V IV III II I

o o o o o (3) o (1) (2) (3) o o (1) o

Previous directions as to the movement of voice-parts, together with the accompanying numerals, will enable the student to complete this in correct manner, especially since the number of each inversion is indicated by figures below. Roots in the base are marked with ciphers.

The entire series of 7th chords in the chart, Ex. 336, is to be employed in this harmonization, and the theme is so designed that the dissonances are gradually reduced in harshness after the second discord marked V. Observe the numerals. * * *

The next step consists in writing the contralto part uppermost as theme. Use the same chords and the same base.

Another resulting theme may be obtained by copying the original mezzo-soprano part, and writing the harmony beneath it. These two themes are given :

Ex. 344.

This exercise is susceptible of still another arrangement, and as it illustrates a useful principle it will be included here: Reference is made to the original base part (from third measure) being transferred to the soprano as theme :

Ex. 345.

The first two measures of the original theme are not adapted to the base, but from the third measure, where the parts are bound so closely together, any of the upper parts might appear below. The only difference in treatment would be required in the final cadence. In case the last note was a real-base (inversion of the tonic chord) it would be necessary to make some alteration. For instance, in the theme marked (c) the last chord could not have its 5th below, but would proceed from root to root, thus :

Ex. 346.

This theory, as well as the resolution of the diminished chord into

the corresponding dominant 7th, has been set forth in a previous chapter.

Transpose these exercises into various other major scales.

* * *

These secondary and principal 7th chords may also be treated fundamentally, especially if they form a harmonic sequence. In such situations the secondary discords assume the functions of a principal 7th chord, and are apparently resolved in the same manner; but it must be understood that the former merely occupy certain positions in the scale according to the nature of the sequence, and that their resemblance (on paper) to the principal discords is apparent, not real.

In rococo music this treatment was of common occurrence on account of the infrequency of transition passages. Since the advent of Boccherini and Mozart the tendency has been to change the secondary into principal 7th chords. An example of the former method will be quoted as of greater present consequence:

Ex. 347. *Allegro.*

It is from a Rondo by Paganini. The discord marked V is resolved (disappears) as though it appeared as a principal discord on *e-flat*:

Ex. 348. But in the original the *a* and *d* are *natural*,

and the chords are all confined to the scale of *B-flat* until the temporary modulation to the dominant in the last measure. The chord marked V is very harsh, but here it is duly prepared by the previous *b-flat* and *d*, and it also results naturally as part of the sequence: *f, e-flat, d, c*, in the base.

The discord marked IV may be explained in like manner, though the base here ascends from *d* to *g*, the same as does the root of a dominant 7th chord. In the resolution of the discord on *e-flat* the root ascends an augmented 4th, because the normal 4th (*a-flat*) is

not a part of the *B-flat* scale. Observe that the 5th of the triads are omitted. If these be added the progressions would appear like this:



These more closely resemble the original treatment of these discords as connecting links and suspensions.

The student should particularly note the design of the sequence in Ex. 347; how the discords take their places in the sequence upon successive degrees of the natural scale; how the secondary chords disappear as they follow the model, and the effect of the entire passage. This will prove much more useful than all the rules of thorough-base books, for it discloses the motive, and forms the basis for all available musical knowledge.*

Transpose Ex. 347 into several major scales. If this can be done at the piano *prima vista*, it will render unnecessary the act of writing the notes.

Chapter XXXVI.

ADDITIONAL CHORD PROGRESSIONS.

THE previous lessons in chord progression have demonstrated the fact that the movement of a concord can not be prescribed. Certain principles can be deduced from standard compositions and according to logical theory; but it can not be said that a certain tone of a certain concord must be followed by a certain other tone of another chord.

Begin with the concords containing a given tone. These are six in number.



* See accompaniment to Schumann's "Ich grolle nicht."

The first three occur in *A-major*, the last three in *A-minor*. But they are all related in a secondary manner to the key of *A*. Transpose into *G* and *B-flat*, and add the fundamental bases. The directions for harmonic progression would apply to any of these chord successions.

Observe the following miscellaneous triad progressions:

Ex. 351.

The musical notation for Ex. 351 consists of three systems, each with a treble and bass staff. The chords are labeled a through u. The first system contains chords a through g. The second system contains chords h through n. The third system contains chords o through u. The bass line shows the root movement for each chord. Some chords are marked with 'or' above them, indicating alternative voicings. The progressions are: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u.

Here are twenty-one consonant chord progressions beginning with the triad of *C-major*. They have all been employed in actual composition, and all are conducted according to previous directions. It would be a useful practice for the student to re-arrange this example in two other positions, and transpose.

The general principles governing the movement of chords are of almost universal application. Though these doctrines and motives have been somewhat thoroughly explained, the author has deemed it wise to present no deviations from a reasonable formula, unless such deviation permitted a simple explanation of its exceptional character. But the student is supposed to be familiar with the motives governing harmonic progressions, and may now consider certain harmonic movements purposely omitted in the previous chapters. One of these is in reference to consecutive octaves, such as these:

Ex. 352.

Example 352 shows two staves of music. The treble staff contains two measures of chords: the first measure has a G4 and B4 dyad, and the second measure has an A4 and C5 dyad. The bass staff contains two measures of chords: the first measure has a G3 and B3 dyad, and the second measure has an A3 and C4 dyad. This represents a simple parallel motion of the lower parts from G to A.

In the first measure the lower parts move from *g* to *a*; but as there is no harmony between these parts the result is a mere re-enforcement of the base or of the lower treble part. In the next measure the soprano part is doubled above, these parts being independent of the others. These progressions are correct. But if inverted, they will be unsatisfactory :

Ex. 353.

Example 353 shows two staves of music. The treble staff contains two measures of chords: the first measure has a G4 and B4 dyad, and the second measure has an A4 and C5 dyad. The bass staff contains two measures of chords: the first measure has a G3 and B3 dyad, and the second measure has an A3 and C4 dyad. This represents an inverted version of the progression in Ex. 352, where the lower parts move from G to A.

This is not good, and it will be necessary to employ one of the following methods, as already advised in the chapter on Avoided Cadences :

Ex. 354.

Example 354 shows two staves of music. The treble staff contains two measures of chords: the first measure has a G4 and B4 dyad, and the second measure has an A4 and C5 dyad. The bass staff contains two measures of chords: the first measure has a G3 and B3 dyad, and the second measure has an A3 and C4 dyad. This represents a simple progression in contrary movement, where the soprano and base move up in tenths, while the two middle parts descend in thirds.

At (a) a simple progression in contrary movement occurs. At (b) the soprano and base move up in tenths, while the two middle parts descend in thirds. Such movements are always good. Resolutions that result in a half-open position as at (b) may continue in this form, provided they are correct with the base :

Ex. 355.

Example 355 shows two staves of music. The treble staff contains two measures of chords: the first measure has a G4 and B4 dyad, and the second measure has an A4 and C5 dyad. The bass staff contains two measures of chords: the first measure has a G3 and B3 dyad, and the second measure has an A3 and C4 dyad. This represents a resolution that results in a half-open position, where the soprano and base move up in tenths, while the two middle parts descend in thirds.

No capable critic will object to such arrangements. Here is another of similar character, with the movements reversed :

Ex. 356.

These are of a contrapuntal nature, since the design is not so much a series of regular chords in progression as it is to preserve the sequence of thirds and sixths above, while the base moves up with a melodic progression against the descending upper parts. At (a) there results a mere duophonic-chord, *e* and *g*; that is, it does not naturally suggest or represent a certain tri-chord, as does the duophonic-chord at (c). In writing a full score where more harmony was desired *c*, *b-flat*, or *c-sharp* might be added to the two-fold chord on *e*. Any of these would be correct :

Ex. 357.

In the second measure there are parallel fifths, yet several justifiable circumstances favor them: 1, The fullness of the harmony; 2, the fifths being in the middle parts; 3, the contrary and decided progression of the base part.

To return to Ex. 356. At (b) a seventh chord of the third species is resolved as a principal discord, the 3d being omitted. This chord will appear again in this chapter. At (c) the sequence comes to an end, because the same design could not be carried beyond this point without seeming to be forced. In fact, the sequence would ordinarily end on the *G* chord between (b) and (c).

With regard to the secondary transition chord founded on the 7th of a major scale, there are three methods of employing it :

1. As a secondary discord in connection with suspensions. In this sense it is not resolved directly, but two or more of its tones remain passive as parts of another discord. Such was the application in Chapter XXXV.

2. It may be resolved in an intermediate manner, thus :

Ex. 358.

Example 358 shows two measures of music. Measure 'a.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). Measure 'b.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D).

These may be classed as progressions. The first example is frequently used in a minor cadence. Its resolution is so apparent, and depends upon so many circumstances, that it need not be described. The example at (b) has been employed by Rubinstein in Ballet Music to "Feniors," and explains itself. A few other instances of these two intermediate resolutions follow:

Ex. 359.

Example 359 shows two measures of music. Measure 'a.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). Measure 'b.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). The word "etc." is written below the bass staff of both measures.

The only explanation necessary is with regard to the second arrangement at (a): *a, c, e* become *g, b, e*. This is simple enough. But the base skips up a fourth instead of resolving to *g*, thus assuming the position of a dominant, skipping from the root of the discord to the real-base on *b*. Or it might go from root to root:

Ex. 360.

Example 360 shows two measures of music. Measure 1 features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). Measure 2 features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D).

c and *e* descend to *b* and *d-sharp*, *a* remains as 7th of the principal discord, while the base moves in a contrary direction.

3. The discord under notice may resolve directly to the chord of which its root is the leading tone:

Ex. 361.

Example 361 shows three measures of music. Measure 'a.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). Measure 'b.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). Measure 'c.' features a treble staff with a triad of G4, B4, and D5 (G-B-D) and a bass staff with a triad of G3, B2, and D3 (G-B-D). The Roman numeral III is written below the bass staff of each measure.

When used in this manner as a principal discord, the root should be in the base, and not be doubled above. The three arrangements here exhibited, together with the one in Ex. 345, are all that the author recommends. Transpose these. The effect of a direct, terminal resolution of this discord is rather mild and sunny. It has less character and decision than the direct resolution of discords I or II.

By selecting the tonic or dominant as a stationary tone two other parts may move in thirds or sixths in any direction to or from the stationary tone :

Ex. 362.

This is so elementary and so pleasing as to require no harmonic analysis. It is a progression in thirds against a stationary tone that forms a part of the dominant or tonic chords. These are marked with a +. A fourth part may be added by doubling the base or the stationary tone. Or the dominant 7th chord may be used throughout considering the *e* and *g* as passing tones between the intervals of the discord, thus :

Ex. 363.

It is not desirable to change the harmony on the second and fourth beats in such instances. Observe that the two lower parts move in tenths while the root and 7th remain above. The contralto melody would be equally appropriate in the soprano part :

Ex. 364.

The tonic may be selected as a stationary note :

Ex. 365.

The same principle is observable here with regard to the parts moving in tenths. Each third (or tenth) is necessarily a part of some chord, though such passages are not treated the same as full chord progressions. The stationary note might be an octavo lower, or it might be placed as a pedal note in the real-base part, thus :

Ex. 366.

The lower *G* is related to all the chords above. The chords marked +, though entirely satisfactory here, are not theoretically complete. The student might attempt to supply the remaining note in these chords, but without employing the same design. This harmonic representation is important, therefore an explanatory example will be included in the Key. * * *

In passing from the tonic concord to any of the related dominant 7th chords, no difficulty will be experienced as most of these have already been employed. They are presented in the most usual forms :

Ex. 367.

After the discord is introduced it may be resolved directly, indirectly or intermediately.

We now pass to the three diminished chords belonging naturally to this key :

Ex. 368.

The third discord (fifth and sixth measures) belongs to *D-minor*. By changing the *c-sharp* to *d-flat* it may go to *F-major*, as in the last measure. The treatment of these diminished chords has been explained. These subjects will be farther illustrated in chapters on Pedal-Note and Harmonic Counterpoint.

In conclusion it is advised that all these examples be transposed

Chapter XXXVII.

SUCCESSION OF DOMINANT SEVENTH CHORDS DIATONICALLY AND CHROMATICALLY.

ANOTHER MEANS OF TRANSITION.

THE fact was demonstrated in a previous chapter that discords do not always resolve to concords.

A succession of related dominant 7th chords is given in which there are two connecting notes:

Ex. 369.

The 3d and 5th of the first chord remain passive and become 5th and 7th of the second discord. The process of this change is simple: The root of the first discord is sharpened, while the 7th descends a minor 2d. The second discord may resolve to *E-major* as well as to *E-minor*, presenting a simple method of performing more distant transitions. By selecting the principal 7th chord on the super-tonic we may accomplish a similar result:

Ex. 370.

The final resolutions are naturally minor; the major cadence merely shows the possibilities of these resultant discords. These illustrations conclude with a similar change of the discord of the first species on the tonic:

Ex. 371.

This results in the same manner and produces a similar effect.

This process is to be carried out with the other dominant 7th chords, founded upon 3, 6 and 7 of the major scale. Simply raise the root a chromatic step, lower the 7th a minor 2d and resolve to tonic, major or minor. The following example, containing dominant 7th chords founded upon every degree of the *E-flat* scale, is to be worked out in the same manner. Some of the final resolutions should be major and some minor:

Ex. 372.

All these admit of re-arrangement and inversion, which should be included in the student's examples. The original 3d and 5th remain stationary in every instance, and become 5th and 7th of the second discord. * * *

We are now at liberty to move from one dominant 7th chord to any other, provided there is a connecting note. This license includes all the essential discords except two: those situated a minor second above and below any given dominant 7th chord:

Ex. 373.

These the author would exclude, for they involve consecutive fifths and consecutive minor sevenths, which are still more objectionable. The 5th might be omitted or placed in the base, but the incongruity would still be manifest. Any of the others may be employed in succession, and in certain situations all might be made effective. The connecting note or notes must remain as such, and objectionable movements are to be avoided. Here follow some of the more unusual 7th chord successions:

Ex. 374.

(a) and (b) of No. 1 are practicable. The second 5th at (c) is imperfect, and so it is admissible, though inferior to (a) and (b). Number 2 is still better, and may be used freely in any position or inversion. Number 3, though more remote, is equally effective. There are two connecting notes (including *b*, *c-flat*), and the 5th, *g* and *a* moves contrarily to *a-flat* and *d-flat*. The same appears enharmonically at (c). The fourth example is also good, and may appear in other positions. No. 5 is somewhat forced, and would be more effective in a pedal passage than as a succession of fundamental discords. The other position, with the *f* uppermost, is not recommended.

These miscellaneous chord successions are presented with a view to independent transitions, usually of an abrupt nature. For instance if this passage were introduced :

Ex. 375.

the next strain could be in *A-flat* (major or minor). The same may be said of examples 1, 2, 3 and 5.

NATURAL SUCCESSION OF SEVENTH CHORDS.

The most usual progression of essential discords is that in which the root of each chord resolves up a 4th or down a 5th. Reference is made to a sequence of 7th chords, not to a progression to some particular one for a transitional purpose. For instance, a discord of the first species naturally resolves to the concord a 4th above (dominant to tonic), as here :

Ex. 376.

This is the first resolution of an essential discord, in which it pursues its natural tendency. If to the second chord is added a minor 7th there will result two discords of the same species following in regular order, thus :

Ex. 377.

The only difference between this and the previous example is that the 3d of the first discord descends a chromatic step in place of ascending a minor 2d. Compare the examples. Another 7th chord may follow in the same manner; *i. e.*, all the notes of the discord are resolved according to formula excepting the 3d, which descends a chromatic step. Write this. * * *

The same description will apply to each progression, and the base will ascend a 4th or descend a 5th during the continuance of the sequence. The fundamental base to these successive 7th chords has been frequently utilized by composers as a base solo, and such progressions always attract attention by their independence of, and dissimilarity to, the other parts. If we employ but four parts, retaining the fundamental progression below, it will be necessary to omit the root and the 5th alternately. When the root-note is doubled above, it will remain as 5th of the next discord. In this case the connecting note will appear alternately, thus :

Ex. 378.

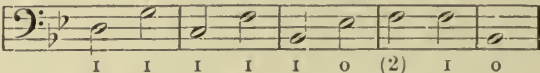
No exception to the previous resolution here occurs. If we begin with a discord in its complete form the result will be the same, excepting that the connecting note will be between the second and third chords :

Ex. 379.

As the root-note does not appear above in the first chord there is no connection. But the chords follow in such natural sequence that the connecting note is not indispensable. Of the last two arrangements (b) is perhaps more satisfactory.

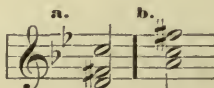
The student may supply the harmony to the following motive considered as a base solo, using only dominant 7th chords until the final cadence :

Bass Sequence as Theme.

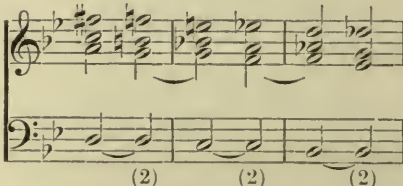
Ex. 380. 

All the bases marked I represent uninverted dominant 7th chords. The ciphers indicate consonant roots. (2) refers to the second inversion of the tonic chord. This is used in order to make the cadence perfect. Necessary chromatic signs are of course to be included. It is not of material consequence what position the upper harmony assumes, provided it is not too high nor too low. The sequence continues through three measures, but the sixth chord is to be consonant. * * *

Write two arrangements of this, one beginning as at (a), the other as at (b): * * *

Ex. 381. 

By omitting the fundamental sequence in the base and substituting alternate real-bases, we can preserve a connecting note throughout :

Ex. 382. 

The first two chords are connected by the base; the second and third by the contralto. This is accomplished in the same way; *i. e.*, the root-note remains passive and becomes the 5th.

The figures in the base show that every other chord appears with its 5th below. This arrangement is more smooth, but less characteristic than where the base proceeds fundamentally. The base part to

the last exercise may be given the soprano, the original contralto part appearing in the base, thus:

Ex. 383.

This is simply a re-arrangement of the previous example. The whole notes above are of course equivalent to connecting notes. Transpose the last two illustrations into *D*, *E-flat* and *F*. * * *

These successive 7th chords will now be considered as a means of harmonizing a descending chromatic melody:

Ex. 384.

This is to be harmonized in the manner already explained. The beginning and ending are not so easily managed as the succession of discords. Therefore these parts have been indicated. It would be well to write one arrangement with fundamental bases and another in which the base moves alphabetically, every other chord being an inversion. In following the latter plan the student may find it convenient to know that when the root of the discord is omitted above, that tone belongs in the base; and when the 5th is omitted above, it is to be included as a real-base. Transpose the theme and harmonize accordingly.

In conclusion, the author would suggest that these successive dominant 7th chords should not continue indefinitely, on account of their transitional nature. Even one of them alone suggests resolution, and when several succeed one another the ear is more or less deceived by their indirect resolution, and unconsciously longs for a more satisfying cadence. Some appreciable motive must therefore appear as a justification for continuing these essential discords beyond the limits of the previous examples. They constitute a species of avoided cadence.

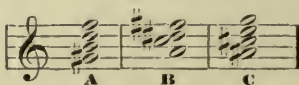
PART IX.

Chapter XXXVIII.

FIFTEEN ENHARMONIC TRANSITIONS BY MEANS
OF THREE PRIMARY DIMINISHED SEVENTH
CHORDS. THEORY OF NOTATION.

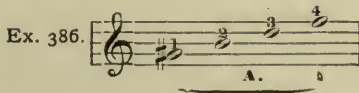
AS a diminished 7th chord may be founded upon the leading-tone of every minor scale, and as there are but three diminished 7th chords that are essentially different, it is evident that each diminished chord can be made to represent four different keys, in addition to the enharmonic equivalents. These three primary discords and their natural resolutions are familiar.

That all other chords of this species are inversions or enharmonic representations of these three original chords may be seen from this illustration :

Ex. 385.  The illustration shows three diminished seventh chords, labeled A, B, and C, on a single treble clef staff. Chord A consists of the notes Bb, D, F, and Ab. Chord B consists of the notes C, Eb, G, and Bb. Chord C consists of the notes D, F, Ab, and Cb. Each chord is represented by a vertical line with dots for notes, and the labels A, B, and C are placed below the staff.

Every chromatic tone in the octave is embraced by these three chords. The next chord above the last would result in an inversion of the first chord.

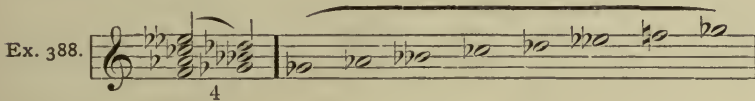
The chord of the diminished 7th is a chromatic harmony composed of three minor 3ds. Select the chord (A) and proceed with its resolution. When the chord is based upon thirds, as in the first position, the root is to be considered as leading-tone, and the chord naturally belongs to the minor key situated a minor 2d above the root. Each note in the diminished chord may be considered as a leading-note. Therefore the four minor keys which this chord may represent are situated a minor 2d above each of these notes :



What are these four tonics? The resolution of the first is known to be this:

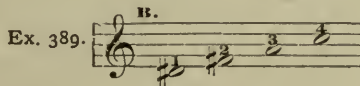


Now consider *B* as a root and build upon it three minor thirds. If correctly formed the upper note (7th) will appear as the enharmonic equivalent of *g-sharp*. Resolve this to tonic minor according to previous directions and number it 2. *D* becomes the next root. Build three minor thirds upon this note and do not confuse the augmented 2d with the minor 3d. This is to be resolved to tonic minor and numbered 3. The necessary chromatic alterations are to be supplied according to the signature of the key to which the discord resolves. No. 4 begins upon *F* as root. Add three minor thirds above this root-note, and resolve to tonic minor as usual. The enharmonic equivalent of No. 4 should then be written in sharps; *f* appearing as *e-sharp*. This is No. 5. It is remarkable that this single discord may, by a mere enharmonic change in the appearance of its intervals, be made to represent equally five different minor keys. The last transition will illustrate this fact:



The discord and its resolution comprise every note in the scale of *G-flat minor*, as may be seen by comparing the two. The scales of *A-minor*, *C-minor*, and *E-flat minor* yield the same results. * * *

The diminished chord (*B*) is selected and submitted to the same process. Each of these notes become roots:



and every time a new root is selected the upper note is to be enharmonically changed from its former appearance. The tonics are to be *E*, *G*, *B-flat*, *D-flat* and *C-sharp*. If the discord is noted correctly it

will contain a minor 3d, imperfect 5th, and diminished 7th from the root, and will belong naturally to the minor scale a minor 2d above the root, which is the leading-tone. The harmonic form of the minor scale is here presupposed. The student should complete this task in the manner indicated for chord (A). * * *

The diminished 7th chord (C) comes next. It must be made to represent equally the keys *B-minor*, *D-minor*, *F-minor*, *A-flat minor* and *G-sharp minor*. These will comprise the entire fifteen minor keys. No. 4 in each example should be written enharmonically as a simplification. For instance, No. 4 of chord (A) requires for its signature nine flats. For the convenience of the performer, composers usually write this in three sharps:

Ex. 390. 

Compare this with Ex. 388. No. 5 (B) is to be written in four sharps in place of eight flats, and number 5 (C) is to be written in five sharps in place of seven flats:

Ex. 391. 

In each instance 5 is a simplification of 4; otherwise they are synonymous. During the five enharmonic changes of each primary diminished 7th chord the sounds remain the same. The metamorphosis is therefore only in appearance. *A-flat* is substituted for *g-sharp*; *b-natural* becomes *c-flat*; *A-sharp* becomes *b-flat*, and so on, according to the notation required by the scale of the key to be established. To make this still plainer the enharmonic changes of chord (A) are presented in such manner that each chord may be sounded by the same keys of a piano or organ:

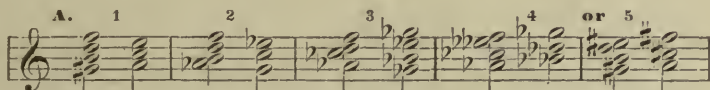
Ex. 392. 

The root of 1 is *G-sharp*; the root of 2 is *B*; of 3, *D*; of 4, *F*. Therefore by selecting any key of which one of these tones may become the leading-tone, and writing the discord according to the harmonic minor scale of that key, it might resolve directly to any of these minor chords as tonic harmonies: *A*, *C*, *E-flat* or *G-flat*. Prac

tically the four chords in the last example are the same; theoretically they are different, and represent four different keys.

A practical illustration of this may be seen in the principal movement of Beethoven's Op. 13. It occurs in the brief episode, *Grave*, that precedes the development. A diminished 7th chord on *f-sharp* is first resolved to *G-minor*; and in the next measure the *c-flat* is changed to *d-sharp* and leads to *E-minor*, the key in which the development begins.

The next step is to resolve each discord in the last example with *g-sharp* or *a-flat* lowermost. The original exercises in which each chord appeared in its first position may be consulted. The first arrangement is given as a model:

Ex. 393. 

Each discord is resolved according to formula. The root, 5th and 7th have, as heretofore, a fixed resolution; the 3d usually ascends. But when it is above the 7th the 3d may descend. This resolution is given whenever it does not involve parallel fifths. (See third measure, last example.)

In the second arrangement the lowest note will be *b* or *c-flat*. Write these and resolve regularly. The third arrangement has *d*, or *c-double-flat* lowermost during the four (or five) measures. In the fourth and last arrangement *f* or *e-sharp* will appear throughout the example as real-base. Resolve each discord according to the actual requirements, and include the enharmonic equivalent of No. 4, as shown in Ex. 393.

The other two discords, (B) and (C), should undergo the same process, for it is important that students should be thoroughly familiar with the relations and possibilities of this remarkable chord in all its phases. Besides, this is the surest way of mastering the theory of notation.

Any note of the diminished chord may appear in the base and resolve according to the directions in Chapter 33.

See solutions to Chapters 33 and 38 in the Key.

Chapter XXXIX.

THE DIMINISHED SEVENTH CHORD AS A MEANS OF ENHARMONIC TRANSITION. CHRO- MATIC HARMONIZATION.

THE student's field of operations has been so greatly enlarged that hereafter it will not be necessary to establish any other boundary than that of Propriety.

The diminished 7th chord is susceptible to a greater variety of uses than any other discord. With a single diminished chord we may pass directly to four minor or four major keys. The theory of this metamorphosis has been explained. The practical application will now be sought. In this connection it will frequently be necessary to employ the corresponding dominant 7th as a means of deciding the tonality; for while a discord of the second species may represent with equal elements four minor keys, a discord of the first species is naturally associated with but one tonic. Heretofore the corresponding dominant 7th was used as a matter of convenience in resolving to tonic minor from an inverted diminished chord. This privilege is still available, though the primary object of changing the species of discord from II to I will now be to determine and establish the tonality wherever that is doubtful. Owing to the chromatic character of the diminished chord it is liable (especially if two or more of these chords be used in succession) to unsettle our mental conception of the actual key-tone; or, what is more serious, it might create an impression directly contrary to that intended by the composer. Examine the following:

Ex. 394.

The example shows a diminished seventh chord in G-flat major (F major). The treble clef staff contains three chords: F major (F, A, C), F major (F, A, C), and F major (F, A, C). The bass clef staff contains three chords: F major (F, A, C), F major (F, A, C), and F major (F, A, C). The third chord in both staves is a diminished seventh chord, which can be spelled in four different ways: F major (F, A, C), F major (F, A, C), F major (F, A, C), and F major (F, A, C). The notation shows the chord in its natural form (F, A, C) and its enharmonic equivalents (F, A, C, E-flat) in both clefs.

The tonality is more or less doubtful after the third chord, which can be made to represent by its notation four different tonics. As it here

appears the last chord represents *D-minor*; by changing the *b-flat* to *a-sharp* it would belong to *B*; if the *c-sharp* appeared as *d-flat* it would resolve to *F-minor*; finally, if the *c-sharp* and *e-natural* were noted as *d-flat* and *f-flat*, it would represent *A-flat*. But it must be remembered that these proposed changes in notation merely alter the *appearance* of the chord; they do not in any way affect the *sounds* practically. The very possibilities of this chord present themselves as an obstacle here; for since it may resolve with equal propriety to four tonics it can not belong particularly to any of these keys. Here is where the corresponding dominant 7th chord serves the highest purpose. It decides the tonality and anticipates or locates the tonic with certainty, even before the discord disappears.

The process to be undergone in making this change from a discord of the second to the first species has been explained. The discord II must first be so noted as to suggest by its appearance the key to be established. Then merely lower the 7th a minor 2d and the tonality is established.

The solution follows:

Ex. 395.

The musical notation consists of two staves, treble and bass. The first measure shows a discord with notes G4, B4, D5, F5 and a Roman numeral II below. The second measure shows the same notes with a Roman numeral I below. The third measure shows the same notes with a Roman numeral II below. The fourth measure shows the same notes with a Roman numeral I below. The notes are written as chords in both staves.

The tonics to these may be major or minor. If the original tonality still lingers in the mind, resolve number 3 naturally to *F-minor*, and No. 4 to *A-flat major*—these being related keys to *C-minor*. Acting upon this hypothesis the first measure would resolve to *D-minor* (being nearer to *C-minor*). It would be difficult to decide the mode of number 2 theoretically; for the minor 3d (*d*) belonged to the original key, and the major 3d (*d-sharp*) might be considered as the enharmonic equivalent of *e-flat*.

But in reality the key-impresion is so far erased by the third chord that either mode may be chosen in any of these instances. The main point to determine is the key-tone; the mode is of secondary importance. A similar example is presented, the different solutions of which are to be worked out by the student:

Ex. 396.

The last chord is to be changed in its enharmonic appearance so as to represent *A*, *C*, *E-flat* and *F-sharp*. Then, before the resolutions, the corresponding discords are to be introduced and resolved to their respective tonics, major or minor.

When the corresponding 7th chord appears in its 3d inversion the resolution will be intermediate, and accordingly the terminal resolution is to be introduced afterwards. This will serve to recall a previous lesson.

The intermediate resolution may sometimes be minor and the final cadence major. One example of this will be given:

Ex. 397.

This is a continuation of Ex. 396. When *a-flat* descends to *g* the tonality is naturally decided as that of *C*. After the inverted minor chord the base passes to *d* on its course down to the final tonic. Many instances like this occur in which the terminal resolution is major, affording another proof of the remark previously made that the key-tone is of much more consequence than the mode.*

The corresponding 7th chord resolving to *C* is the only one of the four that results in an intermediate resolution. In the other three the base will proceed at once to the tonic.

CHROMATIC HARMONIZATION.

The dominant 7th chord has already been utilized in the harmonization of a descending chromatic theme. The diminished chord

* Until the middle of the 18th century it was customary after writing a composition in a minor key to make the final cadence in tonic major. The object was not to perform a transition, but to observe a rule then in vogue that the minor chord, being an imperfect consonance, was therefore unsuitable for the repose of a final cadence.

can be used for chromatic themes both descending and ascending. And this suggests a few remarks concerning the chromatic scale, and its notation. This is an incidental scale, not naturally associated with any particular key-tone. It may ascend or descend in rapid succession without destroying a recognized tonality, especially if a fundamental harmony be employed as accompaniment. In these instances it is customary to use sharps ascending and flats descending, thus :

Ex. 398.



The notation here is merely a matter of convenience or simplicity, the object being to employ as few chromatic signs as possible. But where the chromatic tones are harmonized separately the pupil must be governed by the natural notation of the chords, and the prevailing tonality. An example will illustrate this :

Nevin.

Ex. 399.

The image shows a musical score for Example 399. The top staff is in the treble clef, with a key signature of one sharp (F#) and a time signature of 3/4. It contains a chromatic scale starting on G4 and ascending to G5, with sharps used for the ascending notes. The bottom staff is in the bass clef, with the same key signature and time signature. It provides a harmonic accompaniment consisting of chords and single notes, with some notes tied across measures. The word "etc." is written at the end of the treble staff.

The chromatic motive is here accompanied by five essential discords, each of which contains a major 3d, normal 5th, and minor 7th from its root. Therefore the notation must correspond to these harmonic relations and can not be a mere matter of convenience. Only one flat sign is employed, and this *b-flat* is sub-dominant to the key of *F*, to which the discord resolves. Every chromatic tone here affects the tonality, because the chromatic tones are not treated as incidental, passing tones, but each one is harmonized with a transition chord containing the altered note. In writing a succession of diminished chords the notation is more a matter of convenience; for the chord itself is a chromatic one, and as it does not ordinarily represent a certain key-tone (as does the essential discord) its representation is not prescribed by its fundamental note. Therefore (a) is better than (b) :

Ex. 400.

because fewer chromatic signs are employed. But when the diminished chord is used as a fundamental harmony its notation should be governed by the scale to which it belongs :

Ex. 401.

The first discord belongs to tonic minor ; the second one goes to *D-minor*. Each diminished chord is noted accordingly. These directions and suggestions with regard to the theory of notation will cover all the ground to be traversed at present.

The harmonization of a chromatic theme by means of diminished chords is effected by employing an entirely different chord to accompany each melodic tone. This would seem to be a strange procedure, since all the parts move up or down the same distance and without a connecting tone. One of these chromatic progressions will be analyzed. The chord is composed of a minor 3d, imperfect 5th, and diminished 7th. The minor thirds may follow one another with good effect, as this example proves :

Ex. 402.

The next interval is an imperfect 5th. This is the same in sound as an augmented 4th. There is no objection to a succession of these intervals, especially if they are accompanied by minor thirds above or below, or by a holding tone, thus :

Ex. 403.

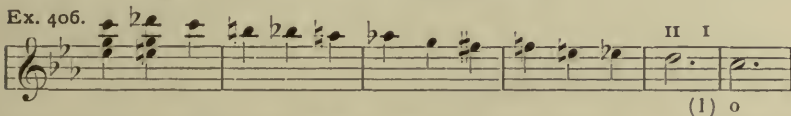
This necessarily admits a progression of two minor thirds, as here :

Ex. 404.

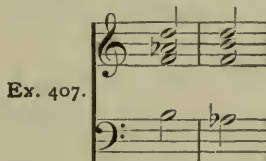
In these instances the augmented 2d is synonymous with the minor 3d. The interval of a diminished 7th comes next. *As this is the same in sound as a major 6th* there can be no objection to a succession of these:



On account of the notation the first and third intervals are diminished sevenths, the second and fourth being major 6ths. But as they began with a diminished 7th, and as each part ascends chromatically, the effect is the same as if the *f-sharp* and *g-sharp* had been noted as *g-flat* and *a-flat*. Certain of the discords appear inverted as they succeed each other, and this is why the intervals of a diminished 7th do not follow one another theoretically. Another noticeable feature of these chromatic chords is that they may follow one another in any position and in any direction. The best effects are produced by omitting the base tones from the upper chords, and this plan will be followed. Take a descending chromatic theme:



This begins and ends in *C-minor*, and the tone omitted in the second chord is to be included in the base. From this point all the parts descend chromatically. In the fifth measure the diminished 7th chord must be so represented that its root will be the leading note to *C*. In the last of this measure the corresponding dominant 7th is to be introduced by lowering the diminished 7th a minor 2d. The (1) below signifies the first inversion of the essential discord. The positions selected are to be one of these:



After harmonizing the theme, transpose it to *B-flat minor* and arrange in the same manner. * * *

A chromatic theme ascending is now to be harmonized. The same theory here applies to the other parts:

Ex. 408.

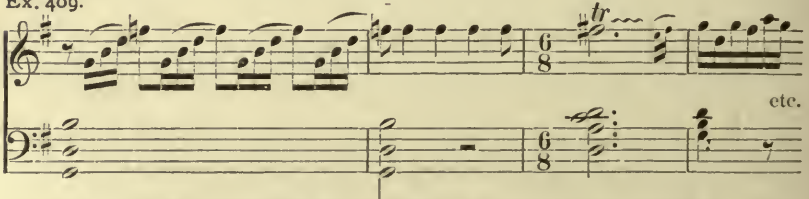


The succession of diminished chords begins upon the second quarter of the first measure and continues to the last of the third measure. The first chord in the last measure must necessarily be a corresponding dominant 7th, not alone to decide the tonality, but to make a terminal cadence.

Complete the harmonization and transpose to *A* and *D*.

In a former chapter a succession of essential 7th chords was employed as a means of harmonizing descending chromatic themes. Ascending chromatics were not harmonized in this manner because it would be unnatural and directly contrary to the progressive tendency of the essential discord. The author has observed a few isolated cases of this kind, but they were very brief, or of a forced character. There is such an instance in the Prayer and Barcarolle from Meyerbeer's "Star of the North":

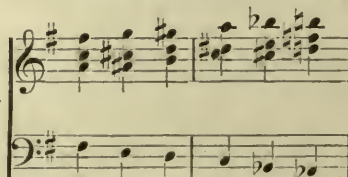
Ex. 409.



There are two circumstances that tend to make this tolerable: The two discords are separated by the half rest in the second measure, and only two discords of the first species are employed. As a means of harmonizing two or more chromatic tones the order will be directly reversed in all ascending passages, and the author does not advise young composers to imitate this last example.

There is another mode of treating the diminished chords when they accompany a chromatic theme. The upper parts may proceed as before by half steps while the base moves in an opposite direction by whole steps. This will not prevent the latter from forming a part of each chord above it. A brief example of this will suffice:

Ex. 410.



All but two of the real-bases are doubled above; but the diminished chords are not here treated fundamentally, and the base moves contrarily to the upper parts.

Chromatic passages have frequently been harmonized by means of inverted major chords. Such an instance is the following from Chopin's *E-minor* Concerto:

Ex. 411.

Allegro.

This is a sequence of major chords in the second position, the real-base being omitted from the design. The stamp of Chopin is sufficient to establish this, or any of his chord successions, as right and proper, but these major chords in chromatic progression are so bold and incisive that they should be used carefully and sparingly.* In the last example they occur in such rapid succession that the tonality is not interfered with.

Chapter XL.

THE DIMINISHED SEVENTH CHORD AS A PASSING HARMONY TO THE TONIC AND TO THE DOMINANT SEVENTH.

TO THE TONIC.

IN previous examples the diminished 7th chord has been resolved directly to tonic minor, to another diminished chord, or changed to a corresponding 7th chord of the first species. The latter is a partial progression; the former is a principal resolution. In the following example the diminished chord performs satisfactory cadences:

* See Ex. 748.

Ex. 412.

The elements of transition here are *b*, *f*, and *a-flat*. These being resolved naturally constitute a regular resolution or cadence. But if we select a diminished 7th containing *c*, no elements of transition to *C* will appear :

Ex. 413.

The diminished chord is here treated as a *passing harmony*, and in this secondary resolution the tonality of *c* is not affected. Therefore if these melodic notes occur :

Ex. 414.

the *d-sharp* and *f-sharp* may be considered as parts of the passing diminished harmony without any transitional tendency. The resolution of these passing chromatic tones is indicated in the exercise, and as *c* belongs to both chords it may be retained as a note of connection :

Ex. 415.

The chord of *C-major* is considered as tonic, *c* being the principal tone throughout. The chromatic passing tones are thus accompanied without disturbing the key-impression, and in this sense the diminished chord is used as a passing-harmony—its resolution being secondary.

Other positions of the passing diminished chord on the tonic are here given :

Ex. 416.

The progression is designated as a *passing diminished chord on the tonic*. Tonic here refers to the unaltered major key-tone, not to the tonic of the diminished chord, which would be *E* if the discord were resolved as a transition chord. A few simple directions for this secondary resolution of a diminished chord are given.

The first figure represents a tone of the discord, and the figure following the dash shows the resolution to some part of the concord, thus: 1 — 1 (this represents the tonic, which remains stationary). 2 sharp — 3; 4 sharp — 5; 6 — 5. This chart will apply to any major key. Therefore the following melodic notes can be accompanied with the passing diminished chord of which any of these notes form a part: 1, 2 sharp, 4 sharp, 6. This presupposes that 2 sharp goes to 3, 4 sharp to 5, or 6 to 5. The tonic is usually included above, as it may be doubled freely. The following arrangements are most practicable, and should be transposed into several keys:

Ex. 417.

6 — 5 4 \sharp — 5 1 — 1 1 — 1 2 \sharp — 3 2 \sharp — 3

As two notes of the discord resolve to the 5th of the concord, there is usually a choice of arrangement in harmonizing the former. Either of the last two measures, for instance, may be used. By omitting the tonic above, there results a half-open position of the tonic triad. This would be equally effective in such instances as these:

Ex. 418.

In the second measure 4 sharp goes down to 3, and not up to 5, but no objection to this could be sustained. The other arrangements (Ex. 417) are more conveniently handled.

The following theme, when harmonized as intended, will illustrate the manner in which a diminished chord is employed in a secondary capacity, as a passing harmony:

Ex. 419.



The secondary resolutions are indicated. Every tone of the discord is introduced in the theme, the resolutions being according to the previous formula. The second and seventh measures are to contain the dominant 7th chord, though in the cadence this should be preceded by the sub-dominant harmony.

Transpose into *A-flat*.

Any note of the discord may appear in the base, though this will result in an inversion of the tonic chord in all arrangements other than the 1 — 1 heretofore employed. Resolve the base as though its note appeared above. This requires much care in the management of the chords preceding and following the diminished harmony. The examples presented will serve as models until the student has become independent of professional assistance:

Ex. 420.

As an intermediate progression the arrangement at (a) is simple and effective. The next two are employed mostly in final cadences. At (c) the diminished chord is preceded by a secondary 7th chord having two notes in common. Write two more arrangements without altering the base, and transpose to *A* and *B*.

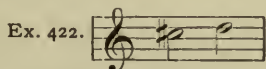
PASSING DIMINISHED CHORD TO THE DOMINANT SEVENTH.

A diminished chord containing the root of a dominant 7th chord may be used according to the same theory here applied to the tonic chord and its passing diminished harmony. In both instances the note of connection is the root of the resultant harmony—tonic or dominant 7th. Begin with the fundamental position of the essential discord:

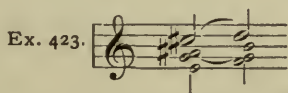
Ex. 421.

Arrange in two other close positions. * * *

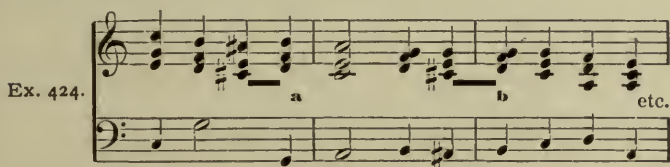
In any key or position the notes of a diminished chord are situated a minor 2d below the 3d, 5th and 7th of the essential discord, the dominant note connecting the two discords. It is easy to deduce from this a formula that will apply to any key, thus: 1 *sharp* — 2, 3 — 4, 5 — 5, 6 *sharp* 7, computing from the prevailing tonic. If these notes occur melodically:



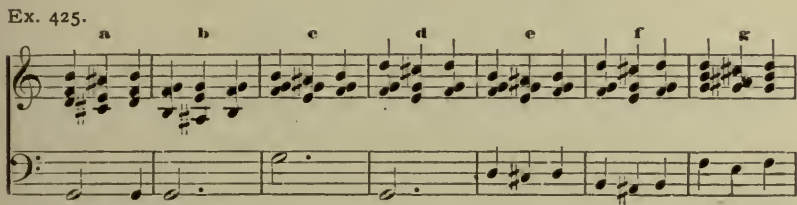
add the remaining intervals according to the formula, thus:



This also is a secondary resolution of the diminished chord. The dominant should be duplicated above when the principal discord is to be resolved directly. But if an avoided cadence is contemplated the root-note of the essential discord is not to be included above. These two methods are here illustrated:



In the avoided cadence at (a) the root-note is omitted above. At (b) the root-note is in the soprano part as the principal discord is resolved directly. The position of the passing diminished chord must be governed by the position of the principal discord. In the second measure the base has 6 *sharp*, which resolves to 7. These inversions are good when they result from a melodic progression. When they result from a skip they are usually less effective. The following exercise is to be re-arranged in the upper parts and transposed:



At (a) two other arrangements are necessary. (c) is a re-arrangement of (b), therefore one other arrangement of this is to be made. All the others require two more arrangements. At (b) and (c) the 5th of the essential discord is omitted; at (d) the 3d is omitted. At (e), (f) and (g) the essential discord appears in its different inversions, the positions of the diminished chord being governed by the former.

One circumstance remains to be explained: the manner in which to arrive at the diminished harmony. In the last example this is preceded and succeeded by the essential discord to avoid presenting two subjects simultaneously. Understand that the progression from the antecedent to the diminished chord must be theoretically correct; and as the latter is not a fundamental harmony, a melodic progression of the parts is preferable to skips. The student should become thoroughly familiar with these exercises as they will serve all ordinary purposes:

Ex. 426.

The diminished chord is preceded by five different concords and by one secondary 7th in order to give the base a melodic progression. (This is necessary here, since no melody appears above.) The first four examples are sufficiently effective; (e) is the least desirable.

The base may occasionally skip to some omitted note of the diminished chord, as here:

Instrumentally these skips present no difficulties, but vocalists not thoroughly trained are liable to sing the altered intervals untrue.

The student will derive much benefit from writing and performing this exercise in every major key, as it contains all the positions to be used in future examples:

Ex. 428.

Example 428 consists of two staves. The treble staff shows a sequence of chords: G major, A minor, B minor, C major, D minor, E minor, F major, G major. The bass staff shows a corresponding bass line: G, A, B, C, D, E, F, G.

This is sufficiently varied to give one a good understanding of the use of these chords.

The following theme when harmonized will afford a practical illustration of the theories contained in this and a previous chapter. The diminished chords resolved secondarily to tonic major and to the dominant 7th are to be employed :

Ex. 429.

Example 429 is a single treble staff showing a melodic line in G major: G4-A4-B4-C5-B4-A4-G4, G4-A4-B4-C5-B4-A4-G4, G4-A4-B4-C5-B4-A4-G4, G4-A4-B4-C5-B4-A4-G4.

Use the first diminished 7th chord in such manner as to leave the tonic chord complete in the upper parts. The dashes indicate avoided cadences. In these cases the essential 7th chord must not contain the root in the treble parts, and this will necessarily regulate the position of the enharmonic discord. The second measure may be written as at (a) or (b) :

Ex. 430.

Example 430 shows two staves. The treble staff has two measures labeled 'a.' and 'b.'. Measure 'a.' shows a diminished 7th chord (F#-A-C-E) resolving to a tonic major chord (G-A-B-C). Measure 'b.' shows a diminished 7th chord (F#-A-C-E) resolving to a dominant 7th chord (G-A-B-C-E). The bass staff shows the corresponding bass line for both resolutions.

Transpose into *E-flat* and *F*. * * *

The diminished 7th chord is sometimes used as a passing harmony to a minor chord, especially when it leads to the second inversion of the latter.

Example from a Fantasia by Emanuel Bach :

Ex. 431.

Example 431 consists of two staves. The treble staff shows a sequence of chords: G major, A minor, B minor, C major, D minor, E minor, F major, G major. The bass staff shows a corresponding bass line: G, A, B, C, D, E, F, G. A forte 'f' dynamic marking is present at the beginning.

E-flat here takes the place of *d-sharp* used in *C-major*, because *e-flat* is the natural minor 3d. The key-note remains as connecting link :

f-sharp ascends to *g* and *a-natural* resolves down to *g*, as heretofore. This latter is the weakest feature of the resolution, for the sharpened 6th is generally foreign to the harmony of a minor scale, especially in descending. Mozart employs it to better advantage :

Ex. 432.

Primo.

Allegro. 2d G minor Symphony.

Secondo.

The diminished chord results from the chromatic progression below, following the upper parts, which brings the 3d in the base. Beethoven used this chord in similar manner. A comparison of the major and minor resolutions will show to better advantage :

Ex. 433.

a **b**

The *a-sharp* at (a) becomes *b-flat* at (b). *G* remains, *e* descends to *d* in both instances, and *c-sharp* ascends to *d*, as the dominant is the same in both modes. The first is more natural unless the minor 6th is retained in the second illustration :

Ex. 434.

etc.

But this is no longer a principal diminished 7th chord, as it has a diminished 3d. (See Ex. 524, first measure.)

Chapter XLI.

HARMONIC CADENCES IN MAJOR.

1. Authentic. 2. Complete. 3. Perfect. 4. Extended-Perfect. 5. Avoided. 6. Deceptive. 7. Incomplete (Half). 8. After (Plagal).

THE musical definition of cadence is close, termination, or ending. A cadence may be intermediate or final, complete or incomplete.

1. AUTHENTIC CADENCE.

This has been described as an ending by means of the harmonies of the dominant, or dominant 7th, followed by the tonic:

Ex. 435.

These may be written in any position. The effect is satisfactory, and they are therefore suitable for the ending of a section or a period.

The diminished 7th chord on the leading-note is frequently employed for an authentic cadence in major, though it is more natural to the minor mode. See illustration :

Ex. 436.

The root, 5th and 7th of the discord, each resolving up or down a

* Hauptmann considers this a "major-minor key." Such dual relationship is of rare occurrence.

minor 2d, impart to this cadence an air of seriousness not observable in the minor mode.

In resolving this discord to major, the 5th is sometimes given the base and made to descend a 4th. Rossini has resolved it in this way in the chorus parts of *Inflammatus*.

2. COMPLETE CADENCE.

This consists of the subdominant, dominant, and tonic harmonies :

Ex. 437.

The complete cadence thoroughly establishes the tonality, containing as it does every tone in the scale. These are sufficient to form a harmonic cadence-group, and hundreds of melodies have been harmonized with the three chords. (See Ground-Base.)

Another form of this cadence consists in substituting the relative minor of the subdominant for the latter. As there is a difference of but one tone between these two harmonies they create very nearly the same impression. Compare this with Ex. 437.

Ex. 438.

or

(1)

In the first cadence the 3d of the minor triad is placed in the base, because *c* is the subdominant. In the second cadence all the chords are uninverted. The former is of more frequent occurrence. Another form is to include the 7th of the dominant chord :

Ex. 439.

(1)

But this is not materially different from the others. The dominant chord makes the actual close in this as in the authentic cadence, though the former is more comprehensive.

3. PERFECT CADENCE.

This includes the same harmonies as the preceding, with the addition of the second inversion of the tonic chord between the subdominant and dominant, thus :

Ex. 440.

(2)

With the connecting-note throughout, the effect is more smooth than the direct progression from subdominant to dominant.

Observe that the chord marked (2) is connected with its antecedent and consequent.

The other two positions with the same base are to be written.

* * *

PRACTICAL EXERCISES.

The perfect cadence is so comprehensive that the author advises students to perform it without notes, in all major scales, after having written it theoretically.

There are important advantages to be derived from this practice :

1. It familiarizes one with the most important fundamental harmonies as they naturally follow one another in any particular key, and enables one to anticipate the harmonic basis of a considerable quantity of modern music.

2. By performing these cadences as directed, listening attentively to the effect of each chord, the hearing faculties will gradually become cultivated. All these cadences and harmonizations are to be judged principally by the sense of hearing ; but if that sense remains uncultivated the student will have no means of distinguishing between good and bad effects.

3. The act of performing all cadences and harmonic progressions, after having written them correctly, serves to re-inforce theoretical

knowledge, and furnishes what is most needed to make abstract formulas serviceable. Theory is valueless unless it can be practically applied.

A model for transposition is presented :

Ex. 441.

Musical notation for Example 441, showing a cadence in G minor. The notation is in two staves (treble and bass clef). The key signature has two flats (B-flat and E-flat). The music consists of a series of chords connected by ties. The chords are labeled with 'mp', 'a.', 'b.', and 'e.'. There are also asterisks (*) above some of the chords. The bass line consists of a simple harmonic progression.

The ties show the connections according to the principles of chord progression.

By listening to these cadences the student will eventually learn to hear the effect of a progression as soon as it is seen on paper. The author considers this practice of the highest importance, and hopes it will no longer be neglected.

Another form of this cadence consists in using an inverted secondary 7th chord in place of the subdominant, the base being the same :

Musical notation for Example 442a, showing a cadence in D major. The notation is in two staves (treble and bass clef). The key signature has two sharps (F# and C#). The music consists of a series of chords connected by ties. The chords are labeled with a plus sign (+). The bass line consists of a simple harmonic progression. Below the notation is the number (1).

Re-arrange and transpose this. The secondary discord at + is a combination of the subdominant harmony and its relative minor :

Musical notation for Example 442b, showing a cadence in D major. The notation is in two staves (treble and bass clef). The key signature has two sharps (F# and C#). The music consists of a series of chords connected by ties. The chords are labeled with a plus sign (+). The bass line consists of a simple harmonic progression.

It is therefore well adapted to the cadence, especially when its 3d is in the base.

* These endings with the 3d or 5th uppermost are here considered equally satisfactory with the one at (b.) Some part must sound the 3d and the 5th, and these may fall to the soprano, as well as to the contralto or tenor.

GROUND BASE.

An illustration of this cadence repeated three times identically, as a Ground-Base, is cited from the Overture to *Zampa* :

Herold.

Ex. 443.

Allegro

f a.

b.

c.

The cadence-harmonies at (a) are repeated literally at (b) and at (c). Meanwhile the scale passages on the violins present a constantly changing melodic design which rests upon the ground-base below. At an earlier period pieces called Grounds were much in vogue. These consisted of the complete or perfect cadence-harmonies, either in major or minor, as a ground work. The melody was so devised that the group of repeated chords would serve as accompaniment. Though little used at the present time, the Ground is an interesting study.

By changing the secondary 7th chord into a diminished harmony a more gradual progression may be introduced :

Ex. 444.

+

This + indicates the passing diminished 7th chord, which is very euphonious and has been much used. The secondary discord might be omitted but this would neither be so smooth, nor so progressive. In both instances the tonic is the connecting link, before and after the chromatic chord.

Re-arrange and transpose all examples.

4. EXTENDED-PERFECT CADENCE.

This embraces an additional harmony. The chord of the relative minor is most frequently used in this cadence, and comes between the tonic and subdominant, being closely connected with both :

Ex. 445.

By prolonging the value of each chord this cadence might easily embrace an entire period. It also gives to the base part a more independent melody.

In place of the diminished chord, the relative minor with its root in the base could be introduced ; or the sequence of descending thirds in the fundamental part might be continued in this manner :

Ex. 446.

The cadence may also be extended by repeating certain chords in an inverted form.

(This should be attempted by the student.)

5. AVOIDED CADENCE.

The application and effect of avoided cadences were explained in Chapter XXV. They take place whenever a principal discord resolves to some other concord than that to which it naturally belongs. The positions most favorable for this purpose are these :

Ex. 447.

Here the *E-minor* chord takes the place of the tonic chord (*G*) at the natural termination of a melodic idea. It preserves the interest and prolongs the period, for this is an indirect resolution.

An example is given showing the situation in which an avoided cadence produces the best effect:

Ex. 448.

The dash shows where the cadence is avoided, this being the 3d resolution of the essential discord. (The fourth resolution, corresponding in minor to this, will appear in the next chapter.) No satisfactory close occurs until the appearance of the tonic chord marked ♩. The last example does not admit much re-arrangement, but should be transposed.*

6. DECEPTIVE CADENCE.

The principal difference between avoided and deceptive cadences is that in the latter *discord follows discord*. Reference is here made to the last of a period where the final dominant 7th chord would naturally be expected to end on the tonic chord. But if another discord be substituted for the tonic triad, a deceptive cadence occurs, and the music must continue until a satisfactory close is reached. Following is an example:

Ex. 449.

(No. 11, Peters' Ed.) Sonata, Haydn.

Allegro.

*The Andante to Schubert's B-flat Symphony contains excellent illustrations of avoided cadences; also the Alla Marcia in Schumann's Op. 44.

This is the last of an eight-measure period ending naturally at 8. Here the deceptive cadence has the effect of considerably extending the actual period, until the essential discord resolves to the tonic triad.

A similar instance is presented, to which the same remarks will apply :

Ex. 450.

The last measure is a deceptive cadence.*

An interesting instance may be found in the Largo of Beethoven's Op. 7, where the regular close is prolonged from the 20th to the 24th measure.

7. INCOMPLETE, OR HALF CADENCE.

The incomplete, or half cadence, consists of the tonic followed by the dominant harmony, with the 5th of the former in the base.

This naturally leads to the dominant :

Ex. 451.

The tonic chord is needed to form a perfect cadence. It is therefore incomplete, and presupposes that something else follows. Illustration (b) has the same effect of keeping in abeyance the actual cadence and is lacking in that sense of repose and completeness which only the tonic can impart. After the pause, *G-major*, *G-minor*, *D-major*, *D-minor*, or even other keys may be introduced.

The Sonatas of Haydn, Mozart, Clementi, Dussek, and the earlier ones of Beethoven, contain many instances of the incomplete cadence, which usually occurs at the end of the principal theme.

* To distinguish these intermediate cadences the reader must understand the analytical divisions of a period and where the melodic cadences occur. Musical Analysis explains this.

8. AFTER CADENCE (PLAGAL).

The subdominant harmony followed by that of the tonic constitutes what is known as a plagal cadence. The author calls it an after cadence as this term is more significant; this cadence coming *after the final ending of a composition*, to which it serves as a short coda or extension.*

In church music the after cadence is often used at the end of an Anthem or Te Deum as accompaniment to the word *Amen*. Hence it is frequently called the Amen Cadence. In instrumental music the application is the same:

Ex. 452.

The phrase in brackets shows the application and effect of the after cadence. The period terminates before this, on the *G* chord. This cadence may be written in various ways, thus:

Ex. 453.

At (b) the passing note between *e* and *d* is included. At (c) the subdominant minor does not appear till the last of the measure, but the chromatic progressions in the middle parts naturally lead to the subdominant and tonic.

Of all the cadences herein enumerated the after cadence is the most mild and undecided. The diminished 7th chord as a passing harmony may be included among the Amen cadences:

Ex. 454.

* The use of this cadence as a substitute for the dominant in old ecclesiastic music is now obsolete, and the Greek term has no real significance in modern music.

The tonality of *G* is not affected by the chromatic passing chord especially as the tonic remains above and below. The harmony of a major 3d below may also be included, though its relationship is apparently remote :

Ex. 455.

The effect is somewhat transitory and unexpected, but, like the others it serves a particular purpose. This is beautifully illustrated in the song by Kücken, *Good night, farewell*.

Chapter XLII.

HARMONIC CADENCES IN MINOR.

1. Authentic. 2. Complete. 3. Perfect. 4. Extended-Perfect. 5. Avoided. 6. Deceptive. 7. Incomplete. 8. After. 9. Ambiguous.

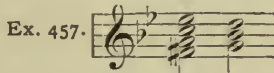
1. AUTHENTIC CADENCE.

THE principal cadences in the minor mode are based upon the same fundamentals that were employed in major. And as the dominant harmony is identical in both modes the authentic cadence will consist of these chords, in any position :

Ex. 456.

Compare this with Ex. 435. Every note of the minor scale is here employed except the 6th.

The diminished 7th chord plays a more important part here than in the major cadences, for the discord and its principal resolution embrace every note in the harmonic minor scale:



This principal resolution of a diminished 7th chord decides the minor key as satisfactorily as does the dominant 7th harmony. For terminal resolutions of this discord the student will do well to use only these positions:

Ex. 458.

As the tonic appears in the base after each resolution, they are all final. Of the illustrations (a) and (b) are best. At (c) the 7th appears uppermost and this necessitates the duplicating of the 3d to prevent fifths. If it is desirable to have the last chord complete in the upper parts, double the root and omit the 3d or 5th.

When the 3d appears as real-base it resolves intermediately (a), and the corresponding dominant 7th will be necessary for the final cadence (b):

Ex. 459.

So with the other inversions. This is the only objection to the diminished 7th chord in a final cadence.

Remember that the root, 5th and 7th have fixed resolutions, while the 3d may resolve according to circumstances.

2. COMPLETE CADENCE.

Here the tonic and subdominant are minor, while the dominant remains major.

Complete cadences in major and minor follow :

Ex. 460.

Observe that the fundamentals are identical.

The complete cadence embraces all tones of the harmonic minor scale.

The cadence given at (b) admits of re-arrangement according to this model, and must also be transposed. * * *

The second form of this cadence given in major does not admit of exact reproduction, because the subdominant is itself minor, and therefore has no *relative minor*. But a form may be used corresponding to that given in Ex. 438, by substituting an imperfect triad on the supertonic for the subdominant harmony :

Ex. 461.

The second chord contains two notes common to the subdominant harmony, and by placing the 3d in the base a very good substitute for the harmony of the 4th is obtained. On account of the inverted triad it is better to move the parts contrarily, as at (a), (b) and (c). Contrary movement is also better in going from the first to the second chord, because there is no connecting note. Transpose these

* * *

* This affords another argument in favor of the harmonic minor scale.

3. PERFECT CADENCE.

This is reproduced by using the same harmonies according to the minor tonality:

Ex. 462.

The dominant chord at the close is sufficient, but the 7th is included in order to follow the downward tendency of the theme. Should the melody suggest it the imperfect triad may be used in place of the subdominant. Otherwise it would be the same as Ex. 462:

Ex. 463.

In a final close this might be preferable to the essential discord as a harmonization of the melody note at +.

The subdominant harmony can be combined with the imperfect triad, making a secondary 7th somewhat similar to the one employed in major:

Ex. 464.

This corresponds to Ex. 442 (a). The 3d is usually treated as a real-base in order to produce the effect of a subdominant harmony.

There is a foreign harmony frequently employed in a minor cadence that deserves a place here. Counting from the fourth as real-base it contains a small 3d and normal 4th. Theoretically it is a major chord located a minor 2d above the key-tone; in actual practice it is treated as a derived harmony, like the augmented 6th chords. It is known as the "Neapolitan Sixth," but this appellation does not

seem to be appropriate. Every modern composer has used it without regard to local origin or association. In his Italian symphony Mendelssohn does not employ it, but in the Scotch symphony it occurs several times. This would seem to prove that no local coloring is to be derived from this cadence, for Mendelssohn was quick to avail himself of any extraneous aid to legitimate tone painting. Rossini uses the cadence in his Swiss overture, as well as in his Neapolitan tarantella, *La Danza* :

Ex. 465.

This so-called Neapolitan 6th furnishes a major harmony with the subdominant as real-base, in place of the imperfect triad. It is much brighter than the latter, and tends to relieve the sombre hues of the harmonic minor scale. Transpose the example into several other scales. The passing diminished 7th employed in Ex. 444 has no equivalent in the minor mode, because there is no recognized tone between 2 and 3 of the scale. But 4 in the base might be sharpened as a passing-note to 5. See Chapter XL.

4. EXTENDED-PERFECT CADENCE.

This may progress by thirds as in major. It is only necessary to follow the signature :

Ex. 466.

Either form may be utilized.

5. AVOIDED CADENCE.

The same general principles apply to both modes. The example is therefore presented :

Ex. 467.

The fourth resolution corresponds to the third in major. These are employed whenever it is desirable to prolong the cadence. The progression from *f-sharp* down to *e-flat* in the middle of the example is perfectly correct, notwithstanding the attempted prohibition of this augmented 2d.

6. DECEPTIVE CADENCE.

This may occur in the minor, as well as in the major mode. The principle and the general effect remain the same. Examples in major are, however, more common.

7. INCOMPLETE CADENCE.

By comparing the next example with No. 451, the student will perceive the general similarity:

Ex. 468.

In either mode it is an incomplete cadence.

8. AFTER CADENCE (AMEN).

This consists of the subdominant (or some harmony corresponding to that of the fourth) followed by the tonic, as in major. With exception of the difference in mode the effects are identical. There is, however, this important distinction to be made: In major use either a major or minor chord on the subdominant; but in a minor key the subdominant harmony is naturally minor:*

Ex. 469.

* In the Sicilienne from "Cavalleria Rusticana" this natural order is reversed and with excellent effect.

The major chord in the second example is usually ineffective. The situation in which the amen cadence occurs was illustrated in the previous chapter. The harmony of a major 3d below the tonic might be used as a modification of the after cadence, and in a minor scale the effect would be less abrupt than in major. The diminished chord is not available as it was in major.

9. AMBIGUOUS CADENCE.

In Chapter XLIX this cadence occurs among the harmonies of the natural minor scale. It consists of the dominant minor, in place of dominant major, with the subtonic as melody note. This is followed by the tonic harmony :

Ex. 470.

It is rather weak and melancholy, and should be used in accordance with these sentiments. Its effect is more satisfactory if not brought into immediate comparison with the more positive and familiar dominant major harmony. An instance is here quoted from Grieg, whom the author considers the greatest harmonist now living :

Ex. 471.

The composer evidently anticipated that some academic musician would "correct" this cadence, for the *natural* is found before *d* in both parts of the duet. This would be less effective in the major mode.

* All these cadences should be performed in various minor scales.

PART X.

Chapter XLIII.

AUGMENTED SIXTH CHORDS—THEIR DERIVATION, APPLICATION AND EFFECT.

No. 1.

A MAJOR 6th enlarged, becomes what is known as an "extreme sharp," or augmented 6th. It is two chromatic tones larger than a minor 6th, and one chromatic tone larger than a major 6th. In notation, thus:

Ex. 472.

Min.	Maj.	Aug.	Aug.
------	------	------	------

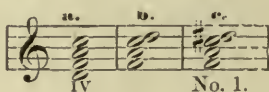
$\text{—} \text{—} \text{—} \text{—}$
 $\text{—} \text{—} \text{—} \text{—}$
 $\text{—} \text{—} \text{—} \text{—}$ or $\text{—} \text{—} \text{—} \text{—}$

The augmented 6th may be produced by raising the upper, or lowering the lower tone of a major 6th, as illustrated. In both instances the direct resolution is to the octave situated a minor 2d above and below the interval of the augmented 6th:

Ex. 473.

This interval may appear as a 13th or a 20th from the real-base (*c* or *c-flat* in last example). It is still called by the same name and treated in the same manner as though the interval of an augmented 6th appeared uninverted; for it is this interval that gives the chord its name, independently of the intermediate tones omitted from the last example.

There are various chords containing the interval of an augmented 6th. The author has systemized these, and endeavored to explain them as they are used by standard composers. They are numbered from 1 to 3. No. 1, with its most natural derivation, is given first. Begin with a 7th chord, species IV, as at (a), invert it once (b) and raise the original root, now the 6th, (c):

Ex. 474. 

The theoretical derivation of the augmented 6th chord, No. 1 (c), is here shown as a formula. In actual practice the original position (a) seldom appears, and it is unnecessary to go through this process. From the real-base (*f*) to the *d-sharp* is an augmented 6th, and as this chord, to be most characteristic, must have its 3d in the base the propriety of calling it a 6th chord is seen, though the 6th (*f* to *d*) was originally a 3d, *d* to *f*. Compute the intervals from the real base: *f* to *a*, a major 3d; *f* to *c*, a normal 5th; and *f* to *d-sharp*, an augmented 6th. These are the component parts of the chord called No. 1. Inasmuch as the extreme parts (*f* and *d-sharp*) must resolve up and down to the octave it should be considered as part of the resulting concord:

Ex. 475. 

This is given first because the augmented 6th has a fixed resolution. Suppose the two middle parts were to remain stationary, would they form a concord in connection with *e*? If so, this chord, *e*, *a*, *c*, is to be considered the resolution. The *d-sharp* would seem to indicate the chord of *E*, as *d-sharp* is the leading note to *E*. But this would involve parallel fifths and can not be recommended:

Ex. 476. 

The minor triad must therefore be used in its third position, 5th below:

Ex. 477. 

It is evidently impossible to stop on this inverted triad. The dominant, or dominant 7th chord founded upon the tone of the real-base (*e*) must follow, and this will lead naturally to the cadence upon *A*:

Ex. 478.

This constitutes another form of perfect cadence, and another method of modulating to *A-minor*.

The entire process should be summed up in this way: The augmented 6th chord, No. 1, resolves to a minor chord in its third position; then to the dominant to this, and finally the tonic.

In writing different positions the base is to remain the same, but the other parts of the chord may be freely re-arranged, and resolved in the same manner. The other two arrangements are given as a model:

Ex. 479.

The three examples (a), (b) and (c) are similar. The 7th of the dominant chord may be included, as at (b) and (d), or omitted, as at (a) and (c).

It is important to observe of all these augmented 6th chords that the tone a minor 2d below the real-base is the dominant to the final tonic. (Analyze it in this manner: *f* is the real-base in the last two examples; a minor 2d below *f* is *e*, and *e* is the dominant to the final tonic, *A*.)

Next select the same kind of a secondary 7th chord (IV), founded upon the third of the original scale. Invert this once (3d in the base) and sharpen the 6th. *G* is now the real-base, and this contains the same theoretical intervals as does the first augmented 6th chord that was produced; *i. e.*, a major 3d, normal 5th, and augmented 6th. It is therefore numbered and resolved in the same manner. This should

be written out by the student as far as the final resolution to tonic, according to the principles herein explained. * * *

This last chord performs a transition outside of the circle of nearly related keys; *i. e.*, from *C-major* to *B-minor*. Each example is arranged in three close positions. One of these is given for reference:

Ex. 480.

No. 1. Third arrangement.

The other arrangements should correspond in treatment to this. In writing these examples use both forms, with and without the 7th, and without altering the base.

Another secondary 7th chord of the same species may be transformed into an augmented 6th chord, No. 1, in exactly the same manner. This is founded upon the submediant (or superdominant):

Ex. 481.

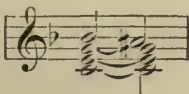
The student should go through the process of inversion, chromatic alteration, resolution, etc., as already described, completing the examples in three positions. The real-base is treated as root and is not to be duplicated above. The intervals of the augmented 6th chord are computed from this base note. Transpose into several other major scales. * * *

Select the three secondary 7th chords of species IV, founded upon 2, 3, and 6, of any major scale and derive an augmented 6th chord from each. Place the original 3d below as real-base, sharpen the 6th, and resolve as directed: The interval of an augmented 6th resolves up and down to the octave; the 3d and 5th (always counting from the actual base note when an augmented 6th chord is under consideration) remain stationary. This invariably results in an indirect resolution, the concord appearing with its 5th below. In all such instances the base remains as root of the dominant harmony, and then the cadence naturally takes place. All these will contain the same theoretical intervals, and be resolved identically. Therefore number them I. * * *

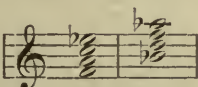
The other derivations of this altered 6th chord, No. 1, are now presented. As its notes correspond on the key-board to those of a dominant 7th whose root is the same as the real-base of the 6th chord, one may be changed into the other by means of a slight enharmonic alteration. Even this partial metamorphosis gives to the resolution a very different direction and termination. Such an instance is here presented, with the natural resolution of each chord:

Ex. 482. 

Compare (a) with (b). One resolves naturally to *F-major*, the other leads to *E-minor*. Yet the only difference between the two discords is that expressed by *b-flat* and *a-sharp*. Therefore, when writing in *F-major*, the key of *E-minor* can easily be established by making the enharmonic change, as illustrated in this example:

Ex. 483. 

The treatment of the 6th chord is the same, whatever may be its derivation. The student should change the following essential discords into augmented 6th chords, No. 1, by writing the 7th of the former enharmonically. Then work out the resolutions to a final cadence as heretofore:

Ex. 484. 

The discords upon *F*, *G*, and *C* will yield the same results as the 6th chords founded upon those tones. They are included here to show the different derivations and the possibilities of transition. But the discord upon *B-flat*, last example, will result in a modulation to *D-minor*, after the *a-flat* becomes *g-sharp*, and this was not included in previous exercises. Therefore this should be worked out more completely, and in three positions.

The augmented 6th chord, No. 1, may also be derived from any of the following diminished 7th chords:

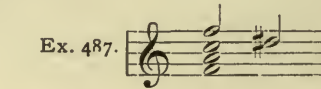
Ex. 485. 

Invert them once, and flatten the real-base :

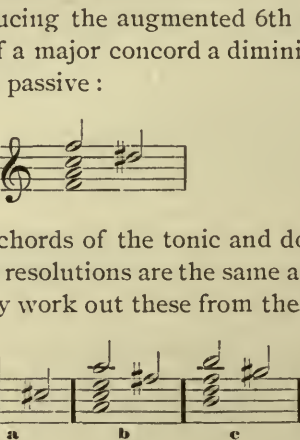
Ex. 486. 

These lead to *G-minor*, *A-minor*, and *D-minor*. Write out the first in three positions, using two staves, and one position of the others in order to indicate their application. The resolutions remain the same.


Another method of producing the augmented 6th chord consists in lowering the upper root of a major concord a diminished 3d, while the other three tones remain passive :

Ex. 487. 

This may be done with the chords of the tonic and dominant in the same manner. The resulting resolutions are the same as those already written; but the student may work out these from the key of *E-flat*

Ex. 488. 

The upper voice-part may also descend by minor seconds to the sharpened 6th, as here :

Ex. 489. 

Work out each of these to the final tonic. They lead to *F-minor*, *B-flat minor*, and *C-minor*. The augmented 6th chord appears at the last of each measure, and the treatment from this point is no different from what has been explained. In the re-arrangements the melodic progression of two minor seconds will appear alternately in the various upper parts. The chromatic signs must not be neglected in these transitions.

Chapter XLIV.

AUGMENTED SIXTH CHORDS CONTINUED.

No. 2.

THE first augmented 6th chord was resolved to an inverted minor triad to prevent parallel fifths, which would have resulted had the 6th chord gone direct to the dominant major :

Ex. 490.

The notation consists of two staves, treble and bass clef, with a key signature of two sharps (F# and C#). The first measure, labeled 'a', shows an augmented sixth chord (F#4, C#5, G4, A4) resolving to an inverted minor triad (F#4, G4, A4). The second measure, labeled 'b', shows the augmented sixth chord resolving directly to the dominant major chord (F#4, C#5, G4, A4).

The first resolution at (a) is indirect, and the dominant chord comes after this. At (b) the 6th chord, No. 1, goes direct to the dominant chord on *F-sharp*. No objection can be offered to the resolution of *g*, *b*, and *c-sharp* of the second measure. But the tenor part moving down by fifths with the base is generally objectionable. If the *c-sharp* of the last chord could be anticipated, the progression would be good, and there would be a connecting note, thus :

Ex. 491.

The notation consists of two staves, treble and bass clef, with a key signature of two sharps (F# and C#). The chord is labeled 'No. 2' and consists of the notes F#4, C#5, G4, and A4.

This is an augmented 6th chord, No. 2, and the example is free from error. Where strength and boldness are desired this is highly effective. The derivations and final resolutions of No. 2 are now given.

It may be derived from the discord No. III, by using the second inversion, and then raising the 6th. The original 5th will become real-base. The resolution is to a major chord direct. This dominant chord is located a minor 2d below the real-base of the discord. The final cadence is to the tonic a normal 4th above the dominant chord.

The constituent elements of this 6th chord, No. 2, are: a major 3d augmented 4th (in place of the normal 5th) and augmented 6th. The real-base and the sharpened 6th resolve as usual to the octave; the 3d descends a minor 2d, and the augmented 4th remains as a connecting note to become 5th of the dominant chord. See last example.

The chord that follows the augmented 6th, No. 2, is to be considered as dominant, not as tonic; for the key of the second chord is too far removed from the original tonality. But if the second chord is considered as dominant, the tonic, being one of the related keys, naturally follows, as here:

Ex. 492.

The reason for this is, that if we consider *F-sharp* as the tonic, and stop at (a), the ear recognizes a strange tone in the real-base, *g* going down a half step to *f-sharp*. A minor 2d above any tonic, either major or minor, is not natural to that key. It is a foreign element, and therefore we do not recognize the second chord as final tonic, but as dominant.*

Observe the difference, both in appearance and effect, between the augmented 6th chord, No. 2, and the dominant 7th, each resolving to *F-sharp major*:

Ex. 493.

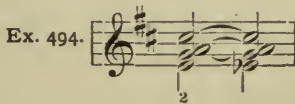
The resolution at (b) is much more final and usually more satisfactory than the one at (a). This leads eventually to *B-minor*, of which the second chord is dominant. But the resolution at (b) is complete in itself, and may rest there.

*The author merely explains here an elementary principle of transition and tonality; beyond this general principle there is a psychological force that may overcome the most important theoretical laws. This will be explained in the analysis of Grieg's composition. Meanwhile these principles are to be considered inviolable.

The student should complete the different arrangements of Ex. 492 according to the preceding explanations. The arrangement illustrated in Ex. 492 is sometimes employed in order to end with the key-tone uppermost, but an occasional exercise of this kind will be sufficient. In the re-arrangements the real-base remains the same.

* * *

This discord may also be produced from a dominant 7th chord in its second inversion. With the dominant 7th to the tonic it is only necessary to flatten the real-base, thus :



This resolves first to the *D-major* chord (now considered as dominant), and the final tonic is *G*.

With regard to the mode of the final tonic the author recommends the student to be governed by the prevailing signature. Thus the last example ends naturally in *G-major*; whereas the previous example leads naturally to *B-minor*. Write out the remainder of Ex. 494, and re-arrange it in two other close positions. * * *

An augmented 6th chord, No. 2, may be derived from the second inversion of any essential 7th chord by flattening the 5th as real-base. It will be sufficient to present one complete example, as they are all treated similarly :

Ex. 495.

On account of the *f#* the *E-major* chord is here treated as a dominant, this being a modulation to *A-major*. At (c) the minor 7th is introduced, though this is not strictly necessary. The other essential discords to be written out and changed into augmented 6th chords are founded upon 2 and 3 of the major scale. Each one is to be placed in its second inversion. The real-base is then lowered a chromatic step, as in the last example. Arrange these in three positions. As two have already been written (besides the one founded on the secondary 7th), these will include all that are practicable in this key.

The most feasible derivations of the augmented 6th chord. No. 2 are therefore as follows: From dominant 7th chords founded upon 2, 3, 5, and 6 of any major scale, and from the secondary discord the 7th of the scale. Each of these is to be inverted twice, and the real-base is flattened in those derived from essential discords. The 6th chord derived from the secondary 7th on the leading tone requires no alteration of the real-base, because the original 5th is imperfect and this produces the augmented 4th. See Ex. 493 (a).

All these instances result in the same kind of an augmented 6th chord, and their treatment is therefore identical, excepting the fact that two end in minor and three in major, according to the signature. With exception of the 6th chord produced from the inverted dominant 7th chord the other derivations may come from secondary (as well as from principal) 7th chords on the 2d, 3d, and 6th of any major scale. If a secondary discord be chosen it will be necessary to raise the 6th in addition to the lowering of the real-base. By using the inverted dominant 7th the major 6th will be ready to hand, and this, by lowering the real-base the augmented 6th, No. 2, will result. These are the only differences between the two methods; the general results are identical.

Another derivation is here presented:

Gleason.

Ex. 496.

etc.

The musical notation consists of two staves. The upper staff is in treble clef and contains three chords: a triad of D4, F#4, and A4; a triad of D4, F#4, and A4 with a sharp sign above the F#; and a triad of D4, F#4, and A4. The lower staff is in bass clef and contains three chords: a triad of D3, F#3, and A3; a triad of D3, F#3, and A3 with a sharp sign above the F#; and a triad of D3, F#3, and A3. A '2' is written below the second chord in the bass staff, indicating its second inversion. The word 'etc.' appears at the end of the bass staff.

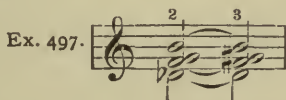
The 6th chord, No. 2, is preceded by an altered triad, having the effect of an augmented 6th chord. The derivation is perfectly natural. The final chords to be written and re-arranged will (in the key of *D*) lead to *D*-major, *E*-minor, *G*-major, *A*-major and *B*-minor. Reduce these to numbers and they will apply to any major key in transposition. They ought to be worked out in at least four other major scales; and the practical performance is not to be neglected, for one is a necessary complement to the other.

Chapter XLV.

AUGMENTED SIXTH CHORDS CONTINUED.

No. 3.

BY selecting an augmented 6th chord, No. 2, and raising the augmented 4th still farther, there will result an augmented 6th chord of the third species:



This contains a major 3d, a doubly-augmented 4th,* and an augmented 6th. Its resolution is to the second inversion of a major chord. The real-base and the augmented 6th resolve as usual; the 3d remains as connecting link; and the doubly-augmented 4th ascends a minor 2d. The dominant, or dominant 7th, follows the inverted concord, and then the final cadence naturally takes place. Complete the exercise, and make two other arrangements, preserving the same base. * * *

As the resolution of No. 3 is necessarily to a major chord, the first task is to select the three major chords that occur naturally in every scale. These represent the three related major keys, tonic, subdominant, and dominant. The augmented 6th chords are located a large 3d below each of these key-tones. Or, to be more explicit, the real-base of any augmented 6th chord is a major 3d below the final tonic. The three discords from which these augmented 6th chords are derived are therefore founded upon the 2d, 5th and 6th of a major scale. These are inverted twice, and altered into augmented 6th chords. In Ex. 497 the chord numbered 2 was derived from the 7th chord on the dominant to *C*. Those discords founded upon the 2d and 6th of the scale may at first be principal or secondary.

The student can complete the task of writing out in different positions the two remaining altered 6th chords. They end in *C* and in *G*, and are transitions. Together with the one ending in *F* as final

* The doubly-augmented 4th is two chromatic steps larger than the normal 4th.

tonic, these will include all the related major keys in the scale of C. It is of no present consequence whether the student flattens the real-base before sharpening the augmented 4th, or *vice versa*. * * *

In case it were desirable to extend the progressions, begin with a secondary 7th chord on the 2d or 6th of the scale and gradually alter the intervals until an augmented 6th, No. 3, appears:

Ex. 498.

IV I II 3

Such arrangements are well adapted to the organ. The second chord is the essential 7th to *F*, and yet the section begins and ends in *B-flat*. But the student should understand that the nature of this discord is almost completely changed at 3, and that these changes direct it into a different channel.*

The following illustrates in a more musical manner the particular application of this chord:

Ex. 499.

Wilson G. Smith.

sad, . . . and yearnings sad my lone heart doth en-dure.

It is sometimes desirable to raise the 4th and 6th simultaneously after having lowered the real-base:

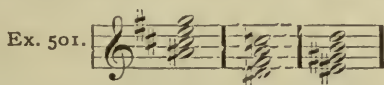
Ex. 500.

3 2 3

* The discord marked I is a fundamental harmony; the one marked 3 is a derived harmony.

The student should be familiar with the various methods of introducing and arranging the altered 6th chords.

Any of the three diminished 7th chords that represent the related minor keys may be utilized in producing the discord under notice. (This is partially illustrated by the chord marked II, in Ex. 498.) In the scale of *D* these diminished chords are the following :



In their present appearance they represent *B-minor*, *E-minor*, and *F#-minor*. Invert each one twice, lower the real-base a chromatic step, and the result will be three augmented 6th chords of the 3d species, leading to *G-major*, *C-major*, and *D-major*. These are to be worked out in different positions as directed. * * *

The intervals from the real-base must be: a major 3d; doubly-augmented 4th, and augmented 6th. The immediate resolution is to a major chord with its 5th in the base. These points are particularly important, since there are three discords that sound exactly the same, the differences being in their notation and resolution. These are here presented, with their resolutions indicated by quarter notes :

Ex. 502.

The first belongs naturally to *A-flat*; the second to *G-minor*; the third to *G-major*. The discord at (a) is an essential 7th. The other two are augmented 6th chords of the first and third species. The different signatures show the different situations in which these discords would naturally occur. The minor 7th at (a) becomes an augmented 6th at (b); and the normal 5th at (b) appears as a doubly-augmented 4th at (c). Examples (b) and (c) should be worked out to their final tonics.

The examples explained and illustrated in this chapter are to be transposed (both theoretically and practically) into several other scales, and every exercise should be written in three positions. The different modes of treatment with regard to the endings are also to be used in different examples.

The derivation, notation, and resolution of the various augmented 6th chords 1, 2, and 3 must be thoroughly understood, for in the next chapter attempts will be made to use them in the harmonization of themes, as they are employed in actual composition.

Chapter XLVI.

APPLICATION OF THE VARIOUS AUGMENTED SIXTH CHORDS IN HARMONIZATION CONCLUDED.

THE three principal augmented 6th chords are to be considered as transition chords, even when their resolution is indirect.

No. 1 contains a major 3d, normal 5th, and augmented 6th, and resolves to a minor chord in its second inversion.

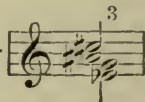
No. 2 contains a major 3d, augmented 4th, and augmented 6th. This resolves direct to a major chord in its first position.

No. 3 consists of a major 3d, doubly-augmented 4th, and augmented 6th. Its immediate resolution is to the second inversion of a major chord.

The final resolution of No. 1 is to minor; No. 2 ends in major or minor, according to the prevailing tonality; No. 3 belongs expressly to the major mode. The *immediate resolution* of 1 and 3 determines the *final resolution*. The resolutions are all intermediate, and must proceed beyond the point at which the augmented 6th chord disappears.

In actual practice the principal difficulty will consist in properly introducing these altered 6th chords. First of all decide the following points: What chord do you wish to use in a certain place, 1, 2, or 3? What is the real-base? What other chord will contain one or more connecting tones?

Suppose this chord was required: Ex. 503.



It is

derived primarily from the second inversion of a secondary 7th chord. The root will be *A*, and the real-base *e*. So much being ascertained, the next step is to find a connecting chord with this. As the base is to be *e*, the preparatory harmony appears naturally upon *D* or *F*, for it is not well to skip to an inverted base. Arrangements like the following may serve as models for illustrating this process :

Ex. 504.

The first preparatory chord marked + contains one connecting note with the derivative 7th chord, and all the parts move by natural degrees. In the second exercise the *F* chord furnishes two connecting notes. Observe also the melodic progression of the base. (Transpose Ex. 504 into *D* and *B-flat*.) A theme for harmonization is here presented, the particular object being to introduce the augmented 6th chords in a practical and musical manner :

Ex. 505.

The figures 1, 2, 3 refer to the different species of augmented 6th chords. The last two *c*'s in the first measure signify that the discord marked 1, and the following minor triad to which it resolves, both contain *c*. This minor triad must appear with its 5th in the base, followed by the dominant and tonic. The chord at 2 resolves direct to a major chord (dominant), after which the minor 7th is introduced — *c* being retained in the middle part. 3 indicates an augmented 6th chord of the third species, resolving to the second inversion of a major chord. This is a transition to *G-major*. The first two half notes represent two quarter notes each in the other parts.

Illustrations and explanations in the previous chapters may be referred to.

After completing the harmonization in four parts it should be written in two other positions with the same base. The mezzo-soprano part may be copied as a theme, but the original contralto part should be inverted an octave higher when it appears as melody.

Afterwards transpose into *A-flat*, *B-flat*, *D*, and *E-flat*. * * *

(Those who have not the benefit of an instructor will find the solution in the Key, but the author again urges students not to consult this part of the work except when necessary.)

Another theme is given with the same general object in view:

Ex. 506.

The musical score for Ex. 506 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has one flat (B-flat). The melody in the treble clef starts on G4, moves to A4, Bb4, C5, D5, E5, F5, G5, then descends through F5, E5, D5, C5, Bb4, A4, G4. The bass line starts on G2, moves to A2, Bb2, C3, D3, E3, F3, G3, then descends through F3, E3, D3, C3, Bb2, A2, G2. The score is divided into three measures. The first measure contains the notes G4, A4, Bb4, C5, D5, E5, F5, G5. The second measure contains the notes F5, E5, D5, C5, Bb4, A4, G4. The third measure contains the notes G4, A4, Bb4, C5, D5, E5, F5, G5, followed by a dash. The number (2) is written below the bass line.

Modulations are here made to *D-minor*, *G-minor*, and *E-flat-major*, by means of the augmented 6th chords, in addition to the passing modulations through the essential 7th chords. The resolutions here are the same as in the theoretical exercises. The only difficulty consists in ascertaining what particular key is intended at the different points indicated by the figures. These latter tell the species of 6th chord to be used, and as only the related keys are to be reached, students who have learned how to apply mental force will have no trouble in completing the harmonizations as intended.

During the fifth and sixth measures the regular formula as to intermediate and final resolutions is slightly varied. An avoided cadence is indicated by the dash, in place of the tonic resolution to *E-flat-major*. Avoided cadences in such situations are always proper and usually effective. * * *

The altered 6th chords introduced into the last themes have become known as "Italian," "German," and "French Sixths," though for what reason none can tell. These chords can not be nationalized, and the names have, therefore, no significance whatever.

The augmented 6th chord, No. 2, is the most masculine and incisive of all the transition chords. The resolution of these intervals,

Ex. 507.

The musical score for Ex. 507 shows a single treble clef staff. The first chord is an augmented 6th chord with notes F#4, A4, Bb4, and C5. The second chord is a dominant 7th chord with notes G4, A4, Bb4, and C5.

ascending and descending by half steps, produces a very decided effect, while the two major thirds add considerable boldness to the transition. The augmented 4th (*d*) supplies the dissonant quality (aside from the sharpened 6th), for *d* produces a discord with *a-flat*, as well as with *c*.

Composers frequently omit the augmented 4th, even in full harmony. In such instances the 3d (from the real-base) is usually doubled, and then resolved differently in each part, thus:

Ex. 508.

The upper *c* descends to *b*, while the lower *c* ascends to *d*, leaving the *G* chord complete. Besides, it is usually better to resolve a duplicated tone either in contrary or oblique movement. This may be done whenever the augmented 4th can not be introduced conveniently. * * *

There is another form of augmented 6th chord, consisting of an essential discord in its fourth position with the original 5th sharpened:

Ex. 509.

But this is generally accompanied with the fundamental in the base, as here:

Ex. 510.

The resolution of the essential discord is not materially changed on account of the altered interval, and as the chord here stands it is simply a dominant 7th with augmented 5th. Hence it belongs more to the fundamental harmonies than to the altered 6th chords.

Augmented 6th chord, No. 2, is sometimes treated in the same

way, the original root being given the base. When this occurs the 6th chord proper resolves as usual, while the independent base skips from dominant to tonic :

Ex. 511.

This is a somewhat rugged, forcible harmonization, and its use is rare. It also brings the base into greater prominence on account of its independent, fundamental character.

The augmented 6th chords, 1, 2, and 3, are, however, the most important and characteristic. With the derivation and resolution of these the student should be familiar in every practicable key.

This subject will be concluded with a few quotations from standard works, intended to show the deviations from, rather than the conformations to, our theoretical formulas. The first extract is from the allegro to Mozart's 2d *G-minor* Symphony :

Ex. 512.

The 6th chord, No. 2, does not here resolve directly to the dominant harmony, but to the inverted tonic chord first. This is on account of the melody above, *g, a, b-flat*. Observe the chromatic progression in the tenor and base parts, as the augmented 6th chord is produced principally by this contrary movement. The next extract is from the "Jupiter" Symphony :

Ex. 513.

No. 3.

The quotation commences at the end of a transitional section in *D-flat*, and this shows the manner of returning to the original tonic, *C*. The second chord in the first measure is a passing diminished harmony on the dominant, *a-flat*. By changing the essential 7th chord enharmonically there results an augmented 6th chord, No. 3, resolving naturally to *C*.

In the andante to the same symphony the composer has resolved the base first, and then the other parts alternately, thus:

Ex. 514.

Mozart.

Observe that the treble parts are suspended after the lower resolution, and the *c* does not move to *b* until after the second beat. This may be done with any four-toned discord.

The next illustration is still more exceptional. It is from the slow movement to the 2d *G-minor* symphony:

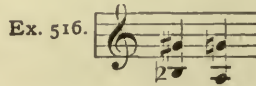
Ex. 515.

Mozart.

Observe firstly the two lower staves. On the third beat an augmented 6th chord appears, and in the resolution *g-sharp* descends to *g-natural*, in place of ascending to *a*. But the sequence embraces a chromatic progression similar to the succession of essential 7th chords. *B-flat* appears in the base on account of the prevailing tonality, and this is what produces the augmented 6th chord in connection with the *d* and *g-sharp* above. Observe the two *d*'s moving contrarily,

and especially the chromatic progression in the lower treble part. The violin figure above is a variation of the middle parts.

The student is to be cautioned against writing a succession of such progressions as this from the last quotation :



Their effect is the same as two minor sevenths, which can not, as a rule, follow each other. Several such dissonant successions would be liable to offend good taste, and even a single progression of these intervals must be justified by some such design as the one quoted from Mozart.

Another exceptional resolution of an augmented 6th harmony is here cited from *The Dream of Jubal*, by A. C. Mackenzie :



There is nothing unnatural about this, and, doubtless, similar instances exist. By including *c* in the tenor a connecting tone would result, and this might be utilized.

By lowering the 5th of No. 1 a minor 2d it will result in a similar chord of the 2d species, and may therefore go direct to the dominant chord. Such an instance is here extracted from the *F-minor* concerto by Chopin :



The change from 1 to 2 at + may be considered an expediency, and in such situations a most useful one. Beethoven frequently changes an augmented 6th, No. 1 into No. 2, when he desired to pass directly

to the uninverted major chord, and to avoid parallel fifths. In these instances the minor chord in its second inversion does not appear, but the final resolution is the same.

In a descending sequence of dominant 7th chords an augmented 6th chord of the first or third species is sometimes substituted at the close, as a means of establishing more directly a particular key. This is partially explained by Exs. 502 and 513. The student should write such exercises, using augmented 6th chord, 1 for the minor, and 3 for the major, cadence.

Examples of this will be included in the Key.



PART XI.

Chapter XLVII.

HARMONIC PROGRESSIONS IN GENERAL.
THEIR ESTHETIC EFFECT.

HERETOFORE chord succession has been considered principally in its fundamental order and relation. Excepting in the two chapters relating to harmonic cadences the author has refrained from presenting chord progression in its purely euphonious aspect. The harmonic cadences will serve as a basis for this study, which, in its general features, is a rather superficial one.

The relations of tonic and dominant are so intimate that they admit of unlimited alternate repetition, after the manner of an authentic cadence. The following *stretto* illustrates this:

Ex. 519.

The musical notation for Example 519 consists of two staves. The top staff is in treble clef with a key signature of two sharps (D major). It begins with a treble clef, a sharp sign, and a key signature of two sharps. The tempo is marked "Allegro." and the dynamics "f Cres." (forte crescendo). The melody consists of eighth notes and chords, ending with a trill on the G5 note, marked "Sya". The bottom staff is in bass clef with a key signature of two sharps. It begins with a bass clef, a sharp sign, and a key signature of two sharps. The dynamics "f Cres." are also indicated. The bass line consists of chords, primarily dyads, moving in parallel motion.

No other two harmonies have been used so frequently as these, notwithstanding their affirmative character.

The subdominant is next in order. On account of its connection with the tonic harmony the subdominant maintains the tonic impression more nearly than does any other chord:

Schulz.

Ex. 520.

Musical score for Ex. 520. The piece is in G major (one sharp) and 3/4 time. The melody in the treble clef consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F#4. The bass line consists of chords: G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3.

The tonic remains in the base throughout this section and the changes to subdominant in measures 3 and 7 represent the least disturbance of tonic impression; for the theme might have been accompanied exclusively with the tonic chord without materially altering the effect. In the cadence-forms these two chords were considered in their well-known capacity as constituting an after cadence. They are not to be so regarded here, for the last example is an initial section, not a final close. The subdominant harmony, preceding that of the tonic, is extremely mild and does not possess that positive quality that is characteristic of dominant and tonic. They are in fact almost opposite in their effects, for one is progressive, the other is non-progressive. Compare Exs. 520 and 521 for this purpose:

Ex. 521.

Musical score for Ex. 521. The piece is in G major (one sharp) and 3/4 time. The melody in the treble clef consists of eighth notes: G4, A4, B4, C5, B4, A4, G4, F#4. The bass line consists of chords: G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3, G2-B2-D3.

This is very simple pabulum from Czerny, but it serves the present purpose. Observe how much more decided are the changes of harmony in the last example.

By combining these three fundamental harmonies we have the characteristic effects noted, and at the same time the most pleasing and easily comprehended means of harmonization. And it must be said that they have been used innumerable times for mere ear-tingling purposes. Haydn employed them almost constantly, Mozart less so,

and the popular opera composers have worn them threadbare. In his mature works Beethoven made very little use of the perfect cadence-form. Schumann considered it a symptom of philistinism. Chopin was rich in harmonic invention; Berlioz and Wagner despised all such devices, and at the present time these cadence-harmonies have fortunately passed into a state of inusitation. The chief value to the young composer is to furnish a simple and euphonious basis upon which to erect a broader and more diversified harmonization. Even in an elementary chapter acquaintance was made with thirty chord progressions in a single major scale, and all these are of practical utility. Since then hundreds of chord successions have been herein illustrated, and it only remains to note the relationship of certain harmonizations and observe the effect of different orders of chord movement. A quotation from the allegro to Beethoven's *Adelaide* is presented :

Ex. 522.

The musical score for Ex. 522 consists of two systems. Each system has a treble staff and a bass staff. The key signature is B-flat major (two flats). The first system shows a melodic line in the treble staff and a chordal accompaniment in the bass staff. The second system continues the same musical material. The bass staff accompaniment consists of a series of chords, some marked with an 'x' to indicate a specific voicing or articulation.

The tonic chord occurs but once; the subdominant twice (the last time inverted); and the following chords once each: *C-minor*, *F-major*, *D-minor*, *G-minor*, and finally the dominant 7th harmony. This scheme introduces all the concords in *B-flat-major* (besides the essential 7th chord), and these occur principally in a dominant relation: thus: *B-flat* to *E-flat*; *C* to *F*; and *D* to *G*. These form sequences. There is also an alternate third relation: *E-flat* to *C*; *F* to *D*; and *G* to *E-flat*. In the former instance there is one connecting tone; in the latter there are two. This proves that a perfectly natural and euphonious series of harmonies may consist of something more than tonic, subdominant and dominant, and without even a temporary transition.

The next quotation is of a different nature. It is the second theme in Schubert's Unfinished Symphony :

Ex. 523.

Two systems of piano accompaniment for Schubert's Unfinished Symphony. The first system includes a piano (*p*) dynamic marking. The music is in G major and 3/4 time, featuring a simple melody in the right hand and a syncopated bass line in the left hand.

Only a limited number of harmonies are here employed, for the grace and simplicity of the melody require very little elaboration. The syncopated middle parts, the chord figure in the base, and the modulations to and from *A-minor*, are to be noticed.

Melodic passages that remain very nearly upon a monotone require more harmonic elaboration than do such themes as the one last quoted. The very nature of the case makes this necessary, for if there is no melodic progression in the upper part, there must be in the harmony. In vocal music this is of frequent occurrence, especially where the solo part is of a declamatory nature. Such an instance is the following from Mililotti :

THE POOR MARINER.

Ex. 524.

Musical score for 'THE POOR MARINER'. It shows a vocal line with lyrics and a piano accompaniment. The lyrics are "Cold - ly the day is end - ing, Night from the heav'ns descend - ing;". The music is in G minor and 3/4 time.

Hoars-ly the bil-lows moaning, Sounds in the fate-ful gloaming;

Here are seven different harmonies accompanying the *g* and *b-flat* of the voice-part, which is almost non-melodious. The design is well conceived and worthy of careful study. Somewhat similar instances occur in the Farewell Song, by Schubert, and in the Palms, by Faure. These are so nearly alike that an epitome of the latter only is given:

Ex. 525.

This scheme is easily explained. The 3d of a dominant 7th chord *descends* by half steps to the root-tone, and the root *ascends* chromatically to the 3d. Meanwhile the 5th and 7th remain stationary, as parts of the intervening harmonies.

Transpose and re-arrange this example, omitting the upper part.
* * *

A somewhat similar instance is extracted from the opera *Puritania*.

Ex. 526. E. S. Kelley.

Owing to the monotonous character of the melody the harmonic parts are considerably varied. Observe the base progression from *a* down to *b*, and how the cadences are avoided until the close.

In the first part of *Lohengrin*, after the king's solo, there are some progressions that have been classed as "inharmonious" by certain theorists. For instance, *F* to *E-flat*; *F* to *C-minor*; *G* to *F-minor*, and so on. This proves what has frequently been stated in this volume, that any chord progression is correct if employed effectively. Besides, have we not heard too much of subdominant and dominant?

The re-arrangement or inversion of certain harmonic and melodic designs may be included here, especially where such an arrangement serves to carry out the same idea :

Ex. 527*a*.

The motive at (a) is repeated at (b) in the base part, while the melody above is continued. This is not to be confused with the inversion of separate chords, as here :

Ex. 527*b*.

Even these may prove useful in harmonization, though no harmonic progression takes place in the different measures considered separately. Beethoven produced many novel effects by means of inversion, as with the 2d theme in the finale to his Op. 27, No. 2.

In the following quotation from Wagner a derived harmony assumes a fundamental character on account of the added base below:

Ex. 528.

"Siegfried."

etc.

The passing diminished chord above is made much more incisive by the fundamental progression in the base—dominant to tonic.

Since the most natural order of successive harmonies has frequently been reversed it would be useless to prescribe certain formulas. The present object is to call attention to various methods and means of harmonization, and point out their peculiar effects and applications. Fundamental progressions by seconds are, on account of their want of connection, inclined to be abrupt and rugged.

Progressions by thirds (fundamentally) are most intimately connected and related, and produce an opposite effect to that of the disconnected progressions.*

The ascending fourths are sufficiently connected, and have a dominant relation that represents something of incitement and onward progress.

The progressions by fifths ascending (or fourths descending) are also connected by a tone in common; but they have a retrogressive tendency.

Chromatic movements have been described in a general way, but their changing colors are so kaleidoscopic that no one could hope to explain them in detail. Since the advent of Chopin and Schumann the tendency has been to indulge very freely in chromatic transition and elaboration. The postlude to one of Schumann's songs is quoted as a simple illustration:

Ex. 529.

"Siegfried."

etc.

* This important relation by the 3d is partially explained by the natural series of harmonic tones. But it is not necessary to discuss this here.

A musical score for piano, consisting of two staves. The music is in a key with two flats (B-flat and E-flat) and a 3/4 time signature. The upper staff features a complex melodic line with many chromatic passing tones, often beamed in groups. The lower staff provides a harmonic accompaniment with chords and moving bass lines. The piece concludes with a double bar line.

Almost every chromatic passing tone is here employed. The effect is appropriate and charming.

We have become so accustomed during recent years to almost incessant transition that a passage like the following scarce disturbs the key-impression :

J. Löw, Op. 485.

Ex. 530.

A musical score for piano, labeled 'Ex. 530'. It consists of two staves. The music is in a key with two flats and a 3/4 time signature. The upper staff has a melodic line with chromatic passages, marked with 'pp' and 'p'. The lower staff has a bass line with chords and moving lines. The piece ends with a double bar line.

This begins and ends in *C*, but it includes a phrase in *A-flat* and one in *F-minor*.

In connection with this subject students are recommended to study as many as possible of the following scores : Schumann, Ops. 21 and 26 ; Ball-Scenes, Op. 26, Nicodé ; Moszkowski, Spanish Dances, Op. 12, especially the No. 3, from the 19th measure to the end of the movement ; Mackenzie, The Song of the Sickle, from *Dream of Jubal*, first part in *A-minor* ; Wagner, Evening Star, Romance ; J. Löw, Paul and Virginia, Op. 485 ; any of Chopin's piano works ;

Grieg's Overture, *In Autumn*; Franz, The Dark Eye, Op. 9, No. 2. This exquisite song, also known as Request, is one of the best illustrations of rich harmonization to be found even in modern music. It should be transposed a minor 2d lower, if that would more plainly show its peculiar and masterly harmonic structure. Either the original song, or Mr. Clarence Eddy's organ arrangement, should be consulted. The latter may be found in Vol. II of *The Church and Concert Organist*.

Chapter XLVIII.

FIGURED BASES. A CURSORY VIEW.

WHEN the author of this volume first began to formulate a system of Harmony [in the year 1866] he discarded the then prevailing "Thorough Base" methods, because he was convinced that figured bases had served their purpose, and could not be made sufficiently precise or comprehensive to support a practical theory of composition. From that date unto the present he has totally ignored the "thorough base" formulas; but so many books have been published on this plan, and so many old scores contain figured bases, that he has concluded to give a brief explanation of the subject, independently of his own system.

Thorough base represents a method of musical stenography, wherein a single base part, accompanied by figures, indicates the full harmony. To ascertain the corresponding note of any figure it is only necessary to count up from the base. The computation is always made from the actual base, this being counted 1. The intervals of a triad from the root are a third and fifth. Therefore the base note *C*, marked $\frac{3}{5}$ signifies that the chord of *C* is to be played. The inversions are numbered according to the actual distance of the intervals from any real-base. If *e* in the base is to represent the *C* chord, it is figured $\frac{3}{5}$. 3 represents *g* and 6 represents *c*. Together these produce the full chord, *e, g, c*, in the first inversion. In the second inversion *g* is the real-base. The remaining tones of the chord of *C* are situated a fourth and a sixth above. Therefore the *g* would be

figured $\frac{6}{4}$ to indicate the second inversion of the *C* chord. The first inversion is usually figured 6, the 3 being omitted. When no figures are included the base is a root.

Here are a few simple illustrations :

Ex. 531.

(a) and (b) show the manner in which the harmony would be added to the base part in three and in four parts. At (c) the — shows that the *C* chord is sustained above, while the base passes through the various notes of the same chord. The figuring of the dominant 7th chord and its inversions is as follows :

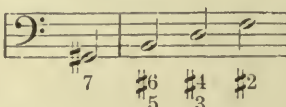
Ex. 532.

7 signifies that a chord of the 7th is required, the base being the root. $\frac{6}{5}$ indicates the first inversion—3 being presupposed; $\frac{4}{3}$ shows the second inversion—6 being omitted, or presupposed. The last inversion calls for $\frac{6}{2}$ (*g, b, d*), but this has been abbreviated as shown in the last example. Any position may be written above, provided the chord is generally correct. For instance, the chord of the third and fourth may be taken in any of the following arrangements :

Ex. 533.

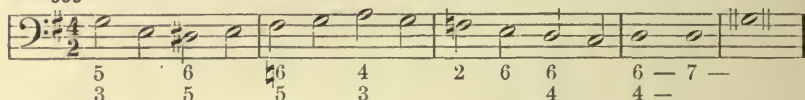
The figures $\frac{4}{3}$ simply indicate the second inversion of a 7th chord, and so all these arrangements are correct. This is one of the principal objections to the system ; for a performer can not tell with any degree of certitude what particular design the composer had in mind when he wrote the base part.

All 7th chords, whether principal or secondary, are figured in the same manner. Transitions are indicated by placing before a certain figure whatever chromatic sign may be necessary for the corresponding note above. Thus the inversions of the principal diminished 7th chord in a minor key would be figured :

Ex. 534. 

Aside from the *sharp*, the figuring is the same as that employed for a dominant or secondary 7th chord. As an epitome of what has been thus far explained a short exercise in figured bases is presented to be worked out by the student :

Ex. 535.



The first chord is to have its fifth uppermost. After that it is only necessary to follow the general principles of chord progression and the rules of resolution. The second base note, without figures is a root; therefore the *E-minor* triad is intended. The formula, $\frac{6}{4} - 7$, is frequently employed in final cadences.

No further explanation is necessary. * * *

According to the principle of figuring just explained various harmonic combinations are indicated from the base part. In order to carry out the system so as to meet all requirements the figures become almost innumerable and frequently confusing. The author admits that considerable practice of this kind is beneficial to the student. But the fact remains that information thus acquired is both mechanical and superficial. One never knows why he makes a certain progression according to the "thorough base" formulas, and all the work becomes artificial and uninspiring. It is, in fact, beginning at the wrong end, for all music is founded upon melody, and the harmony is its accompaniment.* Composers no longer employ this lazy-man's expediency, and it certainly ought to be classed among things that are obsolete.

Herewith is presented a solution in piano score of the "thorough base" Ex. 535 for comparison :

* Even in purely harmonic combinations there must be melodic progression in some of the voice-parts. The author has demonstrated this in a previous work.

Ex. 536.

Musical score for Example 536, showing a treble and bass staff. The treble staff contains a series of chords with figured bass notation below it: 5, 6, 6, 4/3, 2, 6, 6, 6, - 7 -.

Considerable of this is, of course, optional. For instance, the third measure might have been arranged in this manner:

Ex. 537.

Musical score for Example 537, showing a treble and bass staff. The treble staff contains a series of chords with figured bass notation below it: 2, 6, (3/3).

As the object was to give merely the principal features of this old method, further examples need not be presented. Viadana and Catalano first employed the figured base method about 1598. It was called *basso continuo*.

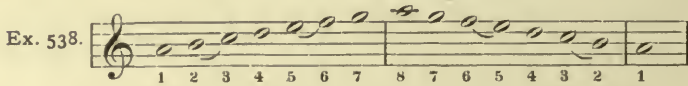
Chapter XLIX.

THE NATURAL AND MELODIC MINOR SCALES. THEIR HARMONIES.

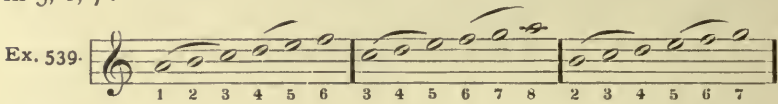
THE NATURAL MINOR.

HISTORICAL research has discovered a great variety of scales that have been used at different times during the past fifteen centuries. Nearly all of these (including the ecclesiastical modes) have been discarded, with exception of the Ionian, beginning on *C*. This is now called the Normal Major Scale. Modern composers have undoubtedly considered the minor as a derived scale, for it has since the time of Bach been written in five different ways. Most of these are variations of the old Æolian mode. This primitive scale is de-

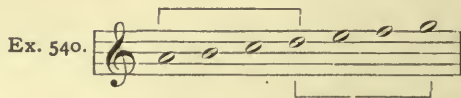
erving of more attention than it has received, and the author believes it will be employed more freely in the future. It consists of a natural series of seven notes, and is the same ascending and descending :



The two small steps are here more equally distributed than they are in the melodic minor. The group 1, 2, 3 has its counterpart in 4, 5, 6; the major element being represented by 3, 4, 5, with its corresponding sequence, 6, 7, 8. Likewise, a counterpart of 2, 3, 4 is found in 5, 6, 7 :

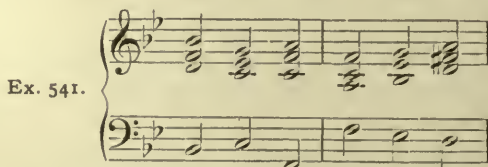


Two corresponding tetrachords may also be formed by considering 4 as the ending of one and the beginning of another :



These characteristic scale features are usually overlooked, but they were considered of vital importance by our musical forefathers.

The harmonization of this scale forms a prominent part in its consideration. Those who hear an old melody clothed in the garb of modern harmony have no better notion of the original effect than can be obtained from listening to one of Scarlatti's harpsichord sonatas performed in the maudlin, *tempo rubato* style of the present day! But we are so accustomed to certain harmonic progressions that whatever is at variance with the prescribed order is by many thought to be incorrect. In fact, the author has been gravely informed by a convention of music-teachers that such progressions as these are wrong!



It is no fault of these progressions that they sound bad to certain persons.

Though the natural minor scale contains a minor 7th from the lower tonic, there is no good reason why the dominant major chord may not be used in the lower half of the scale, thus :

Ex. 542.

In the upper tetrachord the natural subtonic is used ; in the lower the modern leading-note is included. However, instances are not wanting in which the subtonic is substituted for the leading-note at the close. This is according to the natural character of the scale, whereas the regular leading-note is a foreign element. Reference is made to the final, as well as to the intermediate cadence, in which the dominant minor chord is employed. Such an instance is given :

Ex. 543.

This ambiguous cadence is mild and plaintive, and ought, therefore, to serve a very distinctive purpose, especially where decided character is not required. A similar instance from Bizet's *La Bohémienne* is quoted :

Ex. 544.

This is the initial period, and occurs twice with the subtonic accompanied by the *E-minor* chord. Rubinstein, Rimsky-Korsakov, Tschai-kowski, Saint-Saëns, Dvořák and Grieg have produced some of their most characteristic effects by means of these quaint harmonizations. The *Danse Macabre* is a notable instance, for no leading-note appears during the greater part of the work.

It should be added to what has been said about Exs. 470, 543 and 544, that the fundamentals remain the same, thus preserving the dominant relation in the cadence. On this account they are more satisfactory than the following close :

Ex. 545.

The musical notation for Ex. 545 consists of two staves. The upper staff is in treble clef and contains three chords: a triad of G4, B4, and D5; a triad of G4, B4, and D5; and a triad of G4, B4, and D5. The lower staff is in bass clef and contains three notes: G2, B2, and D3, which are the fundamentals of the chords above.

This is a mere progression ; as a cadence, the relative major sounds incongruous. (See Ambiguous Cadence, Chapter XLII.)

THE MELODIC MINOR.

This is a modern scale, and one that is little understood. It is derived from the harmonic form, which contains a minor 6th and a major 7th. In order to obviate the effect of an augmented 2d from 6 to 7, composers frequently raise the 6th, thus making the last of the ascending scale exactly like that of the major :

Ex. 546.

The musical notation for Ex. 546 is a single staff in treble clef showing an ascending melodic line. The notes are G4, A4, B4, C5, D5, E5, F#5, and G#5. The final two notes, F#5 and G#5, are marked with a sharp sign and a fermata.

As a characteristic series of sounds this is inferior to the other forms, for it is too much like the scale of *A-major*, and too little like that of *A-minor*.

The melodic form is chiefly valuable in a rapid ascending cadence. The following extract from Mozart shows its principal advantage ;

Ex. 547.

The musical notation for Ex. 547 consists of two staves. The upper staff is in treble clef with a 6/8 time signature. It contains a rapid ascending melodic line starting on G4 and ending on G5, with a triplet of notes (G4, A4, B4) marked with a '3' below. The lower staff is in bass clef with a 6/8 time signature and contains a series of chords corresponding to the notes in the upper staff.

The fact that Mozart used this form is a sufficient reason for its existence, but the manner in which he employed it must be borne in

mind.* The sharpened 6th appears as a mere passing-note, and does not receive separate harmonic treatment. This has led to the erroneous opinion (asserted as a fact in certain thorough-base books) that this scale can not be harmonized! Considering the fact that even the chromatic scale can be harmonized in various ways it is useless to occupy much space in controverting such queer notions. It would, indeed, be unfortunate if no suitable harmonies could be found for a scale so frequently employed as is the melodic minor.

A few examples are here given :

Ex. 548.

Example 548 is a musical score in two staves (treble and bass clefs) with a key signature of one flat. It consists of five phrases, labeled 'a' through 'e', each ending with a melodic cadence. The treble staff contains chords and melodic lines, while the bass staff contains a bass line. The cadences are: 'a' (F4, E4, D4), 'b' (F4, E4, D4), 'c' (F4, E4, D4), 'd' (F4, E4, D4), and 'e' (F4, E4, D4).

Observe that the melodic cadence is the same in each phrase. These are correct and serviceable.

In the descending form of the melodic minor scale the flattened 7th (subtonic) is sometimes used as a passing-note to the minor 6th:

Ex. 549.

Example 549 shows a descending melodic line in the treble clef. The notes are G4, F4, E4, D4. A plus sign (+) is placed below the treble staff, indicating a specific harmonic treatment.

This is done for a melodic purpose.

The minor 7th may also appear as an appoggiatura to the note below :

Ex. 550.

Example 550 shows a melodic line in the treble clef. The notes are G4, F4, E4, D4. The F4 note is marked with an appoggiatura symbol (a horizontal line with a vertical tick) above it, indicating it is a passing note to the E4 note.

Or the minor 7th may form part of a transition chord in a transient modulation to the subdominant :

* See also Kuhlau Sonata, Op. 55, No. 3; last movement, measures 21, 22, 23, 24, of the second theme.

Ex. 551.

In the second measure the minor 3d is restored, and in the cadence the leading-note appears; so the example, as a whole, gives a very fair representation of the descending scale harmonized.

The concluding example illustrates the ascending and descending forms of this scale, following each other immediately:

Ex. 552.

The sharpened 6th is used, because it passes more naturally to the leading-note. In descending, the *e-flat* is restored, because it is part of the subdominant harmony, and *f-natural* leads to *e-flat* more melodically than would *f-sharp*. The scale is, therefore, an expediency, both ascending and descending, and aside from these conditions (as they appear in the last example) it is inferior to the harmonic form.

If a composer chooses to employ the melodic form in certain situations, that is a matter of esthetics suggested by the nature of his melody. But this does not justify the assertion that the harmonic form is non-melodious.*

* If any further testimony be required, let the spirit of Mozart answer through his Requiem, or the 2d *G-minor* Symphony.

Chapter L.

PRINCIPAL AND SECONDARY NINTH CHORDS.

PRINCIPAL NINTH CHORDS

THE most important five-toned chords are the dominant 9th in major and the dominant 9th in minor. They consist of a major or a minor 3d added to a dominant 7th chord, thus

Major 9th. Minor 9th.

Ex. 553.

The image shows two musical staves. The first staff is in G major (one sharp) and contains a Major 9th chord (G-B-D-F-A). The second staff is in G minor (two flats) and contains a Minor 9th chord (G-Bb-D-F-A).


The root, 3d, 5th and 7th are identical. The large 9th is perfectly natural to the scale of *G-major*, and the small 9th is equally natural to that of *G-minor*.

All these combinations are double dissonances, though they do not require two resolutions when they are dominant 9th chords. On account of its dissonant nature the 9th chord should be prepared. Herewith are examples showing the preparation and resolution of a major 9th chord:

Ex. 554.

The image shows a musical exercise in G major across two staves (treble and bass clef). It consists of three measures labeled a, b, and c. Measure a shows a G major 7th chord with the 5th (D) omitted. Measure b shows a G major 7th chord with the 5th (D) and 9th (A) present. Measure c shows a G major 9th chord. The bass line provides a simple harmonic accompaniment.

At (a) the 5th is omitted to prevent parallel fifths. Besides, the 3d is more essential than the 5th. At (b) the 5th and 9th are contained in the antecedent 7th chord, and, therefore, retained. Otherwise it might not be well to omit the 7th. The 9th chord at (c) is the result of a melodic progression in the soprano and contralto parts. As a general rule the 9th sounds best at the top. The reason for this is that the combination under notice contains a double dissonance,

Ex. 555.  and these tones sound incongruous and con-

fused if they come too near together.

The tendency of the 9th is to resolve down a 2d to the 5th of the concord (or to the root of the dominant 7th chord), and the student is not advised to seek an exception to this. The remaining notes are treated as though the 9th did not appear, for this combination is merely an essential 7th chord, with a major 3d superimposed upon it. (See Ex. 874.)

In five-part harmony the full 9th chord may be used, but this is not essential. In four-part harmony omit the 5th, 7th, or 3d.


In a minor scale the 9th added to the dominant 7th chord will be minor. It is slightly harsher than the major 9th, but the preparation and resolution are governed by the same principles. The three illustrations in Ex. 554 may therefore be transferred to the opposite mode:

Ex. 556. 

These are correct and effective.

As they do not naturally admit of re-arrangement, it will be sufficient to transpose them into several other scales. * * *

Ninth chords are rather difficult of management when inverted, because the ear does not readily recognize their tonal structure when the root is displaced.* The following arrangements have, however, been employed:

Ex. 557. 

* Schumann, in his B-flat Symphony, used a major 9th chord in its third inversion. See measures 72 and 73, first allegro.

The 5th of the 9th chord might have been omitted from examples (a) and (c), but at (b) the five parts are indispensable.

SECONDARY NINTH CHORDS.

These do not perform any direct act of modulation or resolution, but merely form parts of a chord progression, thus :

Ex. 558.

The first two are secondary, the last two are principal 9th chords, though they are here all treated as preparatory discords.

In the Wedding March (2d period) Mendelssohn used a secondary 9th chord on the subdominant :

Ex. 559.

This is a very harsh combination, but it is here duly prepared, and considering that it occurs at the end of a period the effect is highly satisfactory.

A few quotations are included as additional illustrations. The first two are from Beethoven :

Ex. 560.

Allegretto. Op. 31, No. 2.

The 9th disappears in the essential harmony, as usual. In the next example the 9th chord is more fully represented and of longer duration. Its disappearance into the dominant 7th harmony is effected in the last measure by the simple omission of the 9th :

Ex. 561.

Adagio. Op. 31, No. 2.

The dissonant combination here appears uninverted, though the 3d, 5th, 7th and 9th exchange places above.

In the excerpt from Nicodé the major 9th appears as a fundamental harmony at (b) and at (c):

Ex. 562.

Nicodé. Op. 26.

An unusual example is here quoted from an American song. A principal 9th chord is resolved indirectly, constituting a species of avoided cadence:

Ex. 563.

FÆRSTER. Op. 30, No. 1.

Without the 9th this would be equivalent to the 3d resolution of a dominant 7th on *E-flat*. A fuller effect is obtained by including the major 9th, and this remains as a connecting note to the *F-minor* chord. The last example illustrates the employment of an altered 9th chord of the secondary species:

BEETHOVEN: *Adagio*. Op. 31, No. 2.

Ex. 564.



It should be remarked that this 9th chord is not an independent harmony, but results from the suspension of *b* and *f*. These two notes resolve as they would in the diminished chord. By performing this in several other scales it will be sufficiently understood.



PART XII.

Chapter LI.

SUSPENSION. THE THEORY ILLUSTRATED.

"This arises through the delaying of a progression of a voice, which is expected at a definite time, or even necessary, and in such a manner that the voice, which has to progress one degree downwards, in order to occupy its position in the following chord, lingers still upon the tone of the first chord, while the others progress to the second, and this voice does not pass over into the harmony until later."—*E. F. Richter.*

THIS is quoted to show the ordinary explanation of an important and interesting subject.

Suspension refers more particularly to some part of a chord that is held back while the other parts move to another harmony. The suspended tone thus forms a dissonance, as it does not ordinarily belong to the second harmony.

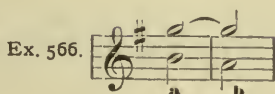
The resolution of a suspended tone is the same as it would have been had no suspension taken place.

SUSPENSION IN TWO-PART HARMONY.

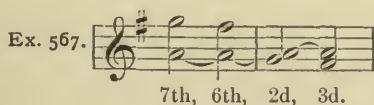
The following two-part cadence will illustrate this in the simplest manner:

Ex. 565.

These parts suggest the tonic and dominant harmonies. Suppose, when the contralto moves to the dominant chord at (b), that the soprano note, *g*, is held back until after the change in harmony takes place:



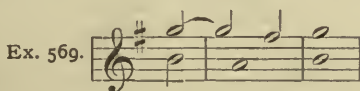
The principles of resolution teach that a 7th naturally resolves to a 6th, and that the inversion of this is treated in the same manner; *i. e.*, the 2d resolves to a 3d :



The contralto part remains upon *a* until the soprano part sounds *f-sharp*, and all the requirements of preparation (*a*), suspension (*b*), and resolution (*c*) are fulfilled :

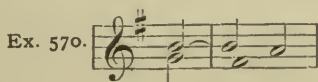


The *g* here descends to *f-sharp*, as it did in the original Ex. 565; the principal difference is that this progression, *g* to *f-sharp*, is delayed until after the main accent, where the change in harmony is naturally expected to take place. This difference, though of primary importance here, is not the only one to be noted; for in a larger sense the suspension produces a discord, and this results in three harmonies in place of two :

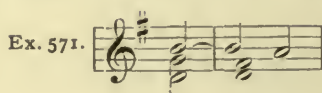


The student should invert this exercise in order to understand its different phases. Simply write the soprano part an octave lower for contralto and let the original contralto part remain as soprano part.

This is preferable to the suspension of the 3d, which results in the ambiguous interval of a 4th :

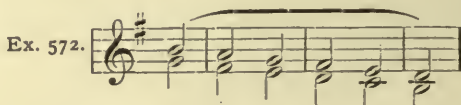


If there were other parts above or below the 4th, this plan might be adopted, as in this instance :



But for present purposes the dissonant interval 2, resolved to the consonant 3, is much more desirable.

As these are the fundamental principles, a more extended application is in order, and this model is presented for elaboration :

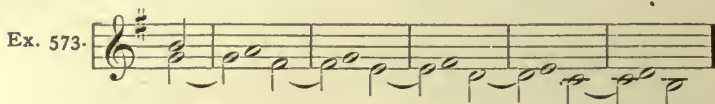


The lower part is to be suspended from the last half of each measure.

The student should now work this out to a satisfactory close. It will end with an authentic, not with an after cadence. * * *

This design may be freely inverted without the least danger of false progressions, and this is always an advantage. Write the contralto part next, an octave higher, leaving the original soprano part as it is. This will change the order of the sequence from 2 — 3 to 7 — 6. * * *

The first arrangement is here given for comparison :

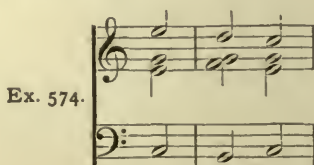


The exercise previously written by the student should correspond exactly to this, from which it is a simple task to arrange the inversion as suggested.

SUSPENSION OF THE UPPER PART IN FULL HARMONY.

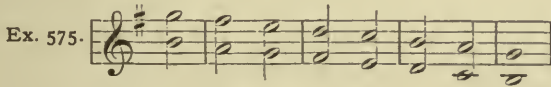
Begin by arranging Ex. 569 in three parts, adding a simple fundamental base. Then add a middle part between the soprano and contralto. The student is to finish these. * * *

A simple harmonic design in four parts is given, to which suspensions are to be arranged in the upper part :



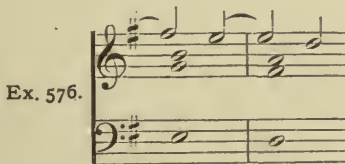
The harmony is to remain the same fundamentally. Simply hold back the upper *e*, and then the *d*. Their final progression, *e* to *d*, and *d* to *c*, will be the same as in the original; but as a dissonance results from each suspension, the *e* to *d* will become a resolution, rather than a progression. * * *

The next exercise is more extended :



Write the suspensions in the upper part, beginning and ending in *G*.^{*} Then add a middle part between the two parts already given.

When the three upper parts are completed the base should be added. Owing to the descending movement of the treble parts this will require some care, if not ingenuity. A fundamental progression in the base will be necessary, because the form of the other parts does not invite, or even admit the employment of real-bases. After the essential 7th has been introduced it will be necessary to avoid the cadence. The suspension does not palliate such progressions as these, which are never allowable :



But the *f-sharp*, *a*, *d*, above may be treated as parts of a secondary 7th chord, and thus produce an indirect resolution corresponding in general design to the previous avoided cadence. Or the *B-minor* chord may be used.

No modulation or decided cadence is required in this intermediate passage. The complete cadence naturally follows. * * *

The last of this exercise presents a situation so different from previous examples that a few words of explanation seem necessary. If the last discord includes the 3d in the middle part, and the rule of resolution be followed, the result will be this inharmonious synchysis :

* The complete harmonization may be made first, and the suspensions added afterwards.

Ex. 577.

The second resolved to the unison is very rarely permissible,—*never in such an instance as this*. Better keep the *f*#, as well as the *a*, in abeyance, though this is not always effective :

Ex. 578.

The simplest, and, all things considered, the best method is, to move the leading-note down to the dominant, thus :

Ex. 579.

This leaves the last concord in a complete form, and does not destroy the effect of the suspension above by anticipating its resolution. The movement of the leading-note down a 3d is a progression, not a resolution; but as the *a* above is kept in abeyance after this, (a) to (b) is regarded as a partial resolution, completed at (c). Though this is a perfectly justifiable expediency, the fact remains that the descending movement of a leading-note in a final cadence lacks decision and completeness. Compare (a) with (b) :

Ex. 580.

Therefore some good reason should appear as a justification of the progression at (a), at least in terminal passages.

The complete example is given :

Ex. 581.

a b c d e f g h
 (1) (2)

The measures lettered (d) and (e) admit of different arrangement; but if a secondary 7th chord be substituted for the *B-minor* triad, the *b, f#, a*, coming after the *E-minor* chord, will strongly suggest *d#* in the melody. At (e) *C-major* may be substituted for the inverted *A-minor* chord. Both methods should be used as a practice, and the different effects particularly noted.

It is to be observed of all these suspensions that the upper part becomes a dissonance soon as the harmony changes to a chord of which the delayed tone forms no part, or, to which it does not naturally belong. This concludes the synthetical exercises.

The next example consists of a few simple chord progressions. These are to be arranged with suspensions in the upper part:

Ex. 582.

All the suspended notes here are to resolve down a whole or a half step according to the model, and to the signature. In every instance the delayed note is to be a dissonance. * * *

The note that follows a suspension, when it is 3d or 5th of a chord, is to be omitted from the other parts. An instance of this was given in the 2d resolving to the unison. Even such arrangements as these are not good, and should be avoided:

Ex. 583.

The effect is unnecessarily discordant and confusing. The next is much better :

Ex. 584.

These suspensions have their due effect, because the resolutions are not interfered with. This does not apply to root-tones, which are nearly always doubled. And even such instances as occur in Ex. 581 are allowable, because the base is removed from the resolution a distance of two octaves. The 3d is used as a real-base to prevent a false progression, and on account of *C* being the sub-dominant.

Supposing the last exercise to have been completed, the student may compare his work with this :

Ex. 585.

Inverted bases are not here employed after the suspensions begin, and this plan should be followed as often as possible until the subject is mastered.

Transpose the theme of Ex. 582 into *D-flat* and *E-flat*, and arrange in the same manner.

Chapter LII.

SUSPENSION CONTINUED.

SUSPENSION IN THE MIDDLE PARTS.

THE principles explained in the last chapter may be applied to any part.

AN EXAMPLE OF SUSPENSION IN THE TWO MIDDLE PARTS.

Ex. 586.

The musical notation for Example 586 consists of two staves, treble and bass clef, in a key signature of two sharps (F# and C#). The treble staff shows a sequence of chords and notes, with some notes being held back (suspended) before resolving. The bass staff shows a similar sequence, with notes moving in a way that demonstrates the suspension and resolution of the tonic.

The same directions are observed. Thus, while *g* is resolving to *f-sharp* the latter note is omitted from the *D* chord. When the note above the root of a chord is held back, the root may appear in the base as fundamental.

SUSPENSION IN THE BASE.

This is not generally effective unless the base is a solo or obligato part. A few illustrations are appended for examination:

Ex. 587.

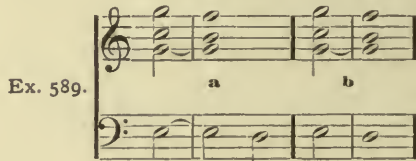
The musical notation for Example 587 consists of two staves, treble and bass clef, in a key signature of two sharps (F# and C#). The treble staff shows a sequence of chords, with some notes being held back (suspended) before resolving. The bass staff shows a similar sequence, with notes moving in a way that demonstrates the suspension and resolution of the tonic. There are accents (>) under the first and fifth notes of the bass staff.

The tonic is first suspended and then resolved down to the 3d of the essential discord, that note being omitted from the upper parts. The 3d of the tonic is next delayed in its progression, and resolves to *e* after the remaining tones of the essential discord have been sounded above. The theme being in the base, that part assumes more freedom and independence. Re-arrange Ex. 587 in this position,



with the same base, and transpose both arrangements into *C* and *B-flat*.

All the chord progressions must be as correct as though the suspensions did not appear. To test this, simply omit the suspended note:

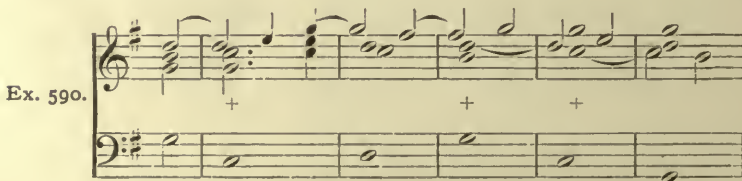


(a) is the same as (b), except that *e* in the base is held back until after the harmony has changed. The *e* then descends to *d*, as in the second example.

UPWARD RESOLUTION.

In the exercises thus far the suspension has resolved down a 2d. This is the usual tendency, with exception of the leading-tone. In all direct cadences this tone is resolved to the tonic, and the fact that the leading-tone is suspended does not alter its natural progression.

The 5th of a dominant chord may also resolve to the tone above, and so may any part of a concord. These points are illustrated in the next example:



The ascending resolutions are indicated by crosses. The *f-sharp* ascends because that is its natural tendency; but in the other instances the delayed note ascends in order to complete the harmony. Observe the places where *d* ascends to *e*, and where *c* descends to *b*.*

Transpose the last example to *F*.

* Ordinary notes of connection are not here considered suspensions.

DOUBLE SUSPENSIONS.

These should usually be either a 3d or a 6th (major or minor) apart, resolving in parallel movement; or an augmented 4th (and its inversion, an imperfect 5th) resolving in contrary movement. A suspended 3d, and a suspended 6th, each resolving down, are given:

Ex. 591.

The intervals mentioned possess a certain harmonizing relationship, and naturally go in pairs. Therefore, when one tone of the interval of a 3d or 6th is suspended, the other may also be delayed in its progression so as to accompany its reciprocal tone. The double suspension is sometimes more, and at other times less dissonant than the single suspension. In the latter the melody is more isolated and independent than where the delayed tone is accompanied with another delayed tone in some other part. When the leading-note is suspended it is proper to delay the resolution of the subdominant also, as the simultaneous disappearance of these two elements of transition is very natural and agreeable:

Ex. 592.

Example (a) is preferable to (b), though the latter is correct. Unless the base is a solo part it is better to give it a regular fundamental position as in Ex. 591. Re-arrange and transpose examples 591 and 592 until they are thoroughly understood.

SUSPENSION RESOLVING TO A CHANGING HARMONY.

The harmony may change at the same time the suspension resolves. In such instances the note to which the suspension resolves must belong to both chords, and the progression is, of course, to be

*The tied notes may be repeated in order to show the full effect.

correctly managed. Suppose *b* is suspended over *a*. When the resolution takes place the harmony may change, provided both chords contain *a*:

Ex. 593.

The resolution (*b* to *a*) occurs in the full measure, and the harmony changes from a dominant to a diminished 7th chord. The *a* belongs to both harmonies. Between these two chords there are three connecting notes. In the next example there are two notes in common, *e* and *g*:

Ex. 594.

Such instances are always proper, provided care be exercised in maintaining the connecting note in the same voice-part.

The resolution of the suspended *a* is the same as though the *E-minor* triad had remained and not been succeeded by the *C* chord. A short theme here follows as an exercise in suspension:

Ex. 595.

This begins and ends in *C*, with a temporary modulation to the relative minor. Change the harmony during the measures marked +. A double suspension may be included in the cadence.

Transpose to *A* and *B-flat*. * * * Another short theme is given for harmonization. The student is merely to supply the middle parts. The bases are all fundamentals except in the sixth measure, where the 5th is below:

Ex. 596.

The only difficulty anticipated is in the proper treatment of the cadence. It should be written in one of the following ways:

The arrangements at (a) and (c) are best. After completing Ex. 596, transpose into *F* and *A*.

PREPARATION BY MEANS OF A SINGLE TONE.

Heretofore the preparation of the delayed tone has been accomplished by means of a chord in which the suspension formed a consonant interval. This is not always necessary. It is sufficient if the single tone that produces the dissonance was heard previously as a regular harmonic tone. The example illustrates this:

Ex. 598.

The first melodic note in the second measure is little more than a prepared appoggiatura, but the same principle applies here. It serves as a preparation to the double dissonance in the second and fourth measures. In addition to these tied notes (*b* and *g*) the impression of tonic harmony is created by the chord figures in the first and third measures, and this impression still lingers until the essential discord is fully developed.

SUSPENSIONS ON INVERTED CHORDS.

An illustration follows in which the suspensions are accompanied with inverted bases. Extreme care is necessary in this matter, and in addition to the preliminary example the student is advised to seek illustrations from standard composers :

Ex. 599.

The image shows two systems of musical notation for Example 599. Each system consists of a treble clef staff and a bass clef staff, both in G minor. The first system shows a treble staff with a suspended chord (F-A-C) and a bass staff with a suspended bass (G-B). The second system shows a treble staff with a suspended chord (F-A-C) and a bass staff with a suspended bass (G-B). The notation includes various rhythmic values and accidentals, with plus signs (+) indicating specific notes or chords.

All these chord progressions are treated exactly as though the suspensions did not exist. Delayed notes occur alternately in each of the four voice-parts. The real-base in every instance is to be omitted above, as it supplies a void in the upper harmony.

The last example should be written in *B* and *C*.

SUSPENSIONS UNRESOLVED.

There are instances in which the suspended tone is not resolved to the tone above or below, but either remains as part of the following harmony, or skips to the tonic of the last chord. An example of the latter is quoted from the score of "Cavalleria Rusticana":

Ex. 600.

Mascagni.

The image shows musical notation for Example 600, attributed to Mascagni. It consists of a treble clef staff and a bass clef staff in G major. The treble staff shows a suspended chord (F-A-C) and a bass staff shows a suspended bass (G-B). The notation includes various rhythmic values and accidentals, with a '3' above the treble staff and a '0' above the bass staff.

The suspended *g* descending to the tonic, *e*, is a melodic license. The composer simply omits the *f*-sharp between *g* and *e*. The procedure is unusual, but the effect is sufficiently characteristic to justify it.

The other instance in which the suspended dissonance (or *appoggiatura*) is retained and becomes part of the ensuing concord has been used by several composers. A good illustration may be found in *Kammenoi Ostrow*, by Rubinstein. It occurs in the middle part, immediately before the *cadenza*.

In all serious music these different kinds of suspension, and the resolutions resulting therefrom, are of great importance, and furnish a considerable amount of adventitious aid to the art of counterpoint. They also serve as connecting links, even where the harmonies are entirely dissimilar, and what is more important, they add great variety to the harmonic coloration; for the number of combinations possible by means of suspension is innumerable.

Chapter LIII.

PEDAL-NOTE. (ORGAN-POINT.)

TONIC PEDAL-NOTE.

THIS refers to a stationary tone in the base, upon which various related and unrelated harmonies are sounded.

The tonic is best adapted to support these changing harmonies, because several chords are generated from this, when considered as a fundamental.

The simplest harmonic material for a pedal-note passage comprises those chords which contain the tonic. There are three of these in every major and minor scale, thus:

Ex. 601.

Pedal-Note.

The pedal-note forms a constituent part of each chord, and the basis is, therefore, a perfectly natural one. (The student should write a similar example in minor.) * * *

The dominant chord is not immediately connected with the note of the tonic; but we have seen that the dominant 7th chord may be suspended above the tonic by means of retardation. The stationary base is a sufficient preparation of the dissonance, though there may be a still farther connection between the dominant chord and its antecedent. This added to the last example will comprise the principal material for nearly all pedal-note passages:

Ex. 602.

Tonic Pedal.

All the chords are connected with the pedal-note, excepting at +. This is merely connected through the fifth of the tonic. The separate links may thus be formed into a chain of harmonies:

Ex. 603.

As these are simple chord-products of the scale of *C*, and as they are all connected in their progression, the fundamental of the scale may well serve as permanent tonal foundation.

We have thus far the governing principles for organ-point in general. By observing these principles it will be comparatively easy to elaborate such designs as the last.

We have ascertained that the dominant 7th chord may be sounded upon the tonic by means of suspension; and according to this doctrine almost any combination may be accounted for. The main conditions are that the chords progress smoothly and without any decided transition to a strange tonality. The following is a simple illustration:

Ex. 604.

The extract begins and ends with the tonic chord, of which the pedal-note is root.

The pedal-note can occur any where during the progress of a composition, but its usual place is at the close. Frequently it is the foundation of a coda.

Eight measures of the *Sanctus* from Haydn's Imperial Mass are here quoted. This occurs after the complete cadence, and forms a codetta to the movement :

Ex. 605.

The harmonic scheme is perfectly simple, but none the less effective : It begins on the tonic, followed by a passing modulation to the sub-dominant, and then a transition back to *D* by means of the principal diminished chord resolved to tonic major. The main advantages of the pedal-note are to be found in the unity and tenacity which it imparts to the passage. The sentiment is *Hosanna in excelsis*.

DOMINANT PEDAL-NOTE.

The next example illustrates a dominant pedal-note against chromatic passing chords above :

Ex. 606.

Melodic designs that require regular fundamental harmonies as an accompaniment (such as Ex. 523), and all transitions that have the effect of establishing a new tonality, are to be avoided in pedal-note passages; for this stationary base precludes the possibility of a series of changing fundamentals.

To simple designs, such as those of the first four illustrations, the pedal-note imparts something of simplicity and rustic charm; to such passages as those quoted from Haydn and Nicodé the organ-point adds dignity, firmness and tenacity of purpose.

The pedal-note explains many combinations that would otherwise be inexplicable. This presupposes that the pedal-note, considered as permanent foundation, is a harmonic necessity. The following example from a comparatively recent text-book on Harmony will serve to exemplify this:

Ex. 607.

This is unsatisfactory and faulty. After retaining *G* in the base during the 2d measure (where it becomes 5th of the tonic chord) the lower *f* produces an incongruous effect. There are two reasons for this: 1. There is no connecting note between the harmonies at (a) and (b); 2. the real-base, *g*, does not naturally progress down to *f* in the present instance. But by considering *G* as a pedal-note and retaining it during the next measure, a more musical and consistent effect is produced:

Ex. 608.

It is not well to alter the base in such instances (as was done in the 3d measure of Ex. 607), because the effect is too disconnected and incoherent. By retaining the *G* as pedal-note a better result is obtained, and nothing stranger than a major 9th appears:

Ex. 609.

Musical notation for Ex. 609. The treble clef staff contains three chords: G major (G-B-D), F# major (F#-A-C), and E major (E-G-B). The bass clef staff contains a single note G, which serves as a pedal point.

This presupposes that *G* was heard as a real-base in the previous measure. In the same manner the subdominant harmony may appear upon the dominant pedal where the chord of the dominant follows, thus:

Ex. 610.

Gilchrist.

Musical notation for Ex. 610. The treble clef staff contains four chords: G major (G-B-D), F# major (F#-A-C), E major (E-G-B), and D major (D-F#-A). The bass clef staff contains a single note G, which serves as a pedal point. The first two chords are marked *ff*. The third chord is marked 'a' and the fourth 'b'.

It is useless, and even absurd, in such instances to change the base to *C* at (a) and then back to *D* at (b).

The harmony of the diminished 7th may be freely used above the pedal-note. The chromatic character of this chord is well adapted to such purposes:

Ex. 611.

Musical notation for Ex. 611. The bass clef staff contains four chords: G major (G-B-D), F# major (F#-A-C), E major (E-G-B), and D major (D-F#-A). The treble clef staff contains a single note G, which serves as a pedal point. The first chord is marked *p*.

The tonality of *G* is not seriously interfered with here; and even if the chromatic chords should have a tendency to alter the key-impression to a certain listener, the pedal would serve to keep the attention fixed upon this point.

The stretto to a fugue, usually founded upon an organ-point, affords the best illustration of the general character and effect of a sustained fundamental. The polyphonic style of a fugue excludes those features previously mentioned as objectionable here.

A good illustration is quoted from the stretto to a fugue in *G*:

Ex. 612

Cherubini.

The musical score for Ex. 612, by Cherubini, is presented in two systems. Each system contains a treble clef staff and a bass clef staff. The key signature is one sharp (F#). The first system is marked "Stretto." and "Dominant Pedal." The upper voice in both systems features a melodic line with eighth and sixteenth notes, while the lower voice provides a sustained bass line with some rhythmic activity.

The soprano and tenor answering each other at the interval of a 5th is in the canonic style; the chord feature is, therefore, not prominent.

Whether the pedal-note be located upon the tonic, or the dominant, its treatment remains the same. See Exs. 606, 611 and 612.

The first and last chords should be connected with the pedal-note, but the intermediate passages may be related only in a general way, as we have seen. When the pedal passage contains modulations to the related keys, and the harmonic connection is slight, it is still more necessary that the first and last chords should be in harmony with the sustained base.

As the upper parts are, in their progression, independent of the pedal-note, the former should be complete in themselves,—though the pedal-note may be relied upon to supply a suitable foundation in lieu of the ordinary movable base.

The tonic of any scale to which a decided transition is effected may be continued in the base, and thus become a pedal-note. In such instances the harmony above is to be treated as though the organ-point represented the key-note, or its dominant. There are some exceptions to this, but none to the statement that all pedal-note passages are governed by the same fundamental principles.

TONIC AND DOMINANT PEDAL-NOTES COMBINED.

The two pedal-notes previously explained are frequently combined after the manner of a bag-pipe or drone-base. When the harmony consists chiefly of tonic and dominant, this plan is very effective. Following is a simple illustration :

Ex. 613.

p

The double pedal assumes the character of a fundamental accompaniment, one or other of the pedal-notes being connected with every chord above. Beethoven introduced several effects of this kind in his Pastoral Symphony. See the *allegro*, the *scherzo*, and the *finale*.

The double pedal may also support chromatic progressions as passing harmonies :

Ex. 614.

M. Oesten.

The tonic chord occurs on the first of each measure where the strongest rhythmical accent naturally falls. The dissonances are, therefore, less harsh, because less noticeable.

The next example, of a livelier character, is quoted from Bachmann's *Danse Bretonne* :

Ex. 615.

p Allegro.

The harmonic impressions created by the melody are so slight, and the drone-base is so appropriate to dances of this kind, that the double pedal serves as a very natural foundation.

A more artistic illustration of pedal-note is here extracted from the Polish Dances by Ph. Scharwenka, Op. 38, No. 2 :

Ex. 616.

The musical score for Ex. 616 is presented in three staves. The top staff is a treble clef containing a melodic line with eighth and sixteenth notes, including a triplet of eighth notes in the fourth measure. The middle and bottom staves are bass clefs. The middle staff contains a double pedal consisting of sustained chords, primarily triads and dyads, in the lower register. A piano (*p*) dynamic marking is placed in the first measure of the middle staff. The bottom staff also shows the double pedal with sustained chords. The key signature is one flat (F major/D minor).

All the intermediate harmonies are unrelated to the pedal-notes, though the key-impression of *F* remains throughout. This organ-point adds somewhat of seriousness to the darkly-colored foreground, and gives consistency to the constantly changing harmonies above.

The second part to rococo gavottes, called *musette*, will be found to contain many examples of pedal-note that may be advantageously studied in connection with this subject, for the dance of that name is usually founded upon a single or double pedal throughout.

A volume of organ music will furnish instructive examples of pedal-note. (See also the first thirty-two measures of "Ophelia," by E. Nevin, Op. 13, No. 2.)

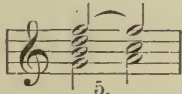
Advanced students should consult orchestral scores, for some of the most interesting pages of modern music are built upon a stationary tonal foundation.

In piano music the organ-point is not so frequently employed, nor is it so effective, though Chopin's exquisite cradle song is founded upon a double pedal from beginning to ending. Even in the coda the tonic pedal is maintained.

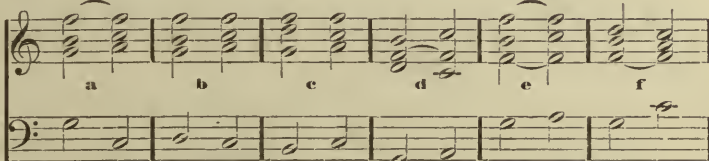
Chapter LIV.

SEVEN ADDITIONAL RESOLUTIONS OF THE
DOMINANT SEVENTH CHORD.

THIS is a continuation of Chapters XXIV and XXV, and refers to the disappearance of the essential discord into a concord. All these additional resolutions are indirect, and when they occur at the end of a strain they constitute a species of avoided cadence. Otherwise they are mere progressions. They are numbered continuously from the first four previously explained.

No. 5 is to a major concord whose root is the same as the 7th of the discord: Ex. 617.  It may be used in almost

any position. Several arrangements are given:

Ex. 618. 

The 7th remains stationary; the root and 3d ascend a 2d each; the 5th descends a 2d. When the root is in the base it commonly ascends or descends to the 5th of the concord. See (a) and (f). The root in the base may also ascend to the 3d of the concord, as it did in the first example. See (d) and (e). The 3d is then omitted from the upper parts. When the base is inverted it resolves according to the previous directions. See (b) and (c).

The resolution of *b* down to *a* in the last measure is less natural; but it is necessary to prevent the last concord appearing blank—without its 3d.

The most common application of this 5th resolution is to found it upon the 2d note of the scale, and then, by placing the 5th of the following concord in the base, to return to the key-tone, thus:

Bertini.

Ex. 619.

5.
(2)

The concord with its 5th in the base may be obtained by giving the root to the base, and causing that part to ascend a 4th or descend a 5th, as at (a) or (f) in the previous example. The essential discord to the tonic naturally follows, as in the last illustration.

The 6th resolution is similar to this, but in the minor mode thus:

Ex. 620.

6.
x

The 5th of the discord is omitted in the second measure, but this is of no particular consequence. The same directions apply to this, as 5 and 6 correspond.

Beethoven used this much more freely in the development of Op. 7, just before the reprise:

Ex. 621.

6.
x

The effect here is that of a harmonic digression. The chord marked *ff* comes so unexpectedly that it forces the attention away from the tonality of *A-minor* in a most emphatic manner. This leads to *D-minor*, as might be presumed from the base.

No. 7 resolves to a minor triad whose root is the 5th of the discord. This note must not, therefore, be omitted. There are two connecting tones, 5th and 7th of the discord, while the root and 3d both resolve to the 5th of the concord.

The following positions are available:

Ex. 622.

Musical notation for Example 622, showing a sequence of chords in the treble clef and a bass line in the bass clef. The chords are marked with a '7.' below them.

These are all resolved in the same manner, because no other alternative presents itself. But in the progression following the 7th resolution considerable liberty may be allowed. Advantage can be taken of the $\frac{6}{4}$ chord in order to pass to *D-minor* by introducing the dominant; or consider the *D-minor* triad as a mere passing chord in progression. Examples of these two methods:

Ex. 623.

Musical notation for Example 623, showing a sequence of chords in the treble clef and a bass line in the bass clef. The chords are marked with a '7.' below them.

Others are possible, but the author gives the most feasible, and leaves the ingenious young composer to the pleasures of discovery.

The 8th resolution is likewise to a minor triad. The root and 3d remain; the 5th and 7th resolve up and down to the root of the triad:

Ex. 624.

Musical notation for Example 624, showing a sequence of chords in the treble clef and a bass line in the bass clef. The chords are marked with an '8.' below them.

This is a mere progression. Its most peculiar feature is that it admits of inversion more readily than do the others. In truth, the uninverted form is not very serviceable.

No. 9 is more transitional. So far as the author has been able to discover, it was first employed by Schubert in his great *C-major* Symphony. The root of the discord remains as 3d of the major concord; the 3d descends a chromatic step; the 5th ascends a minor 2d, and the 7th descends a major 2d, to the root of the concord:

Ex. 625.

Musical notation for Example 625, showing a sequence of chords in the treble clef and a bass line in the bass clef. The chords are marked with a '9.' below them.

It is the most abrupt of all, excepting, perhaps, No. 10. In the example from Schubert the 5th of the discord is real-base, and resolves directly to the root of the triad:

Ex. 626.

The musical score for Example 626 consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The first measure shows a discord with dynamics 'f' and 'p'. The second measure shows the resolution to a triad with dynamics 'p'.

This is much more effective than the uninverted form. Observe that the root, 3d and 7th of the discord are duplicated above by the different instrumental parts, but that the 5th is given only to the bases. The immediate effect is bright, and rather bold, the concord on *E-flat* being altogether unexpected. This extract is taken from the 2d subject of the first allegro.

No. 10 is also novel, but perfectly feasible:

Ex. 627.

The musical score for Example 627 consists of one staff in treble clef. The first measure shows a discord with dynamics 'f' and 'p'. The second measure shows the resolution to a triad with dynamics 'p'.

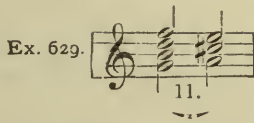
It is better to omit the 3d, as it has no natural resolution here. The following positions are perhaps best adapted to practical uses:

Ex. 628.

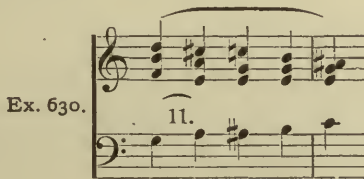
The musical score for Example 628 consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The score shows three positions (a, b, c) of a discord resolving to a triad. Position 'a' is marked '10.', 'b' is marked '10.', and 'c' is marked '10.'.

The immediate resolution is remote, and might, for this reason, be utilized in making a distant transition, as in the last example (c). This, however, is but one of the many ways in which the harmony might be directed after the 10th resolution has taken place.

The 11th and last of the consonant resolutions of a dominant 7th chord is to the major triad located a whole step above the root of the former:



This is not a very natural termination of the discord, but in certain progressions it might be utilized, as here :



The end justifies the means. It is well to know, however, that this resolution is abrupt, even in the midst of the chromatic progression, and should not be used ordinarily. Nearly all these examples can be reversed, as were numbers 623 and 624. (Another resolution is possible.)

Some of the preceding resolutions the author has given on his own responsibility. Less than one half have appeared in the text-books, but most of the others have been employed by living composers.

In adding to those already known the main object has been to introduce a greater variety of harmonic progressions, for we are naturally disposed to employ only those sanctioned by frequent usage. But the cadence forms have been used as the harmonic basis of so many thousands of songs and instrumental pieces that they no longer interest a cultured listener, and almost any reasonable progression is a relief from their satiating effect.

The substance of this chapter is to be worked out by the student in at least four other scales. It would also be well to make a diagram of the entire eleven resolutions in some key different from that of the printed examples.

PART XIII.

Chapter LV.

DUPLICATION AND OMISSION.

DUPLICATION.

A LIMITED knowledge of these subjects has been acquired from Chapters XXII, XXVII, XXIX and L. It is well known that the root of a chord admits the greatest amount of duplication, and as that tone is the foundation of the chord this requires no farther explanation than the following :

Brahms. Dvořák.

Ex. 631.

p f

This principle applies to all fundamental harmonies.

The major 3d is of a decided character, and its appearance in the last example shows that it will not admit the same amount of duplication as does the root.

In harmonic masses the 3d may appear in each group :

Goldmark.

Ex. 632.

In an orchestral score this would be perfectly satisfactory, for there are five *c*'s against three *e*'s. But when the major 3d appears as real-base it is usually omitted from the other parts. There are two reasons for this: 1. The blank above is most agreeable filled by the real-base:

Ex. 633.

2. If the real-base is doubled above, it is liable to produce parallel octaves. But where the duplicated interval progresses in contrary or oblique movement it may be freely admitted:

Ex. 634.

At + in the first measure the major 3d is doubled, but in the next chord one *e* descends while the other remains. In the second measure the duplicated minor 3d disappears contrarily. Both examples are good.

Another exception occurs when the base passes through the different notes of a chord, as here:

Ex. 635.

Or, where the base skips to and from the root, as in this from Mendelssohn:

Ex. 636.

This gives to the base a more individual character, and the duplicated 3d above remains passive. Notwithstanding these exceptions (which are proper only when properly applied) the fact remains that the first measure in the next example is more satisfactory than the second :

Ex. 637.

It is better, therefore, not to double the 3d except under such circumstances as have been enumerated. The same directions will apply to the minor 3d, though it is not so strong as the major 3d. If the melody does not prevent, it is usually better not to double the real-bases in such passages as these :

Ex. 638.

This plan has the advantage of greater purity to recommend it.

The 5th admits of duplication more readily than does the 3d, especially in cadences where the real-base becomes a fundamental :

Ex. 639.

Although there are four *a*'s against one *d* and one *f*#, the effect is satisfactory. The real-base assumes something of the character of a fundamental, and may thus support the chord above without causing the duplicated tones to sound unpleasantly prominent. But where the second inversion is not followed by the dominant harmony the 5th should not be doubled, except for a good reason. The next example may serve as a model :

Ex. 640.

Musical notation for Ex. 640, showing a treble and bass staff. The treble staff contains a series of chords and a melodic line. The bass staff contains a melodic line. The key signature has two sharps (F# and C#).

None of the real-bases are here duplicated. Where each of the extreme parts have a melodic progression in contrary movement the 5th may be doubled above:

Ex. 641.

Hummel.

Musical notation for Ex. 641, showing a treble and bass staff. The treble staff contains a melodic line and a chord. The bass staff contains a melodic line and a chord. The key signature has two flats (Bb and Eb).

A sufficient reason for the duplication is here apparent. All such examples are correct. The next is similar:

642.

Musical notation for Ex. 642, showing a treble and bass staff. The treble staff contains a series of chords. The bass staff contains a melodic line. The key signature has two flats (Bb and Eb). Below the bass staff, the numbers (3), (1), and (2) are written under the first three measures.

In the last measure the 5th is doubled, even to the exclusion of the 3d; but the progression of ascending thirds against the descending base justifies this procedure. Of the same nature is the following more artistic design quoted from Beethoven:

Ex. 643.

FINALE. Op. 2, No. 3.

Musical notation for Ex. 643, showing a treble and bass staff. The treble staff contains a series of chords. The bass staff contains a melodic line. The key signature has two flats (Bb and Eb). The notation includes dynamic markings *ff* and *p*, and a plus sign (+) above some notes in the bass staff.

The fifths and thirds are here duplicated with the greatest of freedom, though this is the result of expediency.

The inversions of a dominant 7th chord should not, however, be doubled, unless some particular melodic design justifies the duplication.

The next example, in any of its re-arrangements, may be taken as a safe model.

Ex. 644.

The 7th may be doubled in the base, but not in the upper parts. Such unison passages as these are perfectly proper :

Ex. 645.

Particular attention is directed to the third inversion of the essential discords in the first and third measures.

These directions do not apply to diminished 7th chords except where they are treated as principal discords. When they appear in a secondary capacity as passing chords, or in chromatic progressions, they are not subject to the same restrictions, for any note of a diminished 7th chord may be considered root, 3d, 5th or 7th, according to its notation. Correct progression of the parts should determine whether a certain note may or may not be duplicated; for neither the root, 3d, 5th nor 7th possess that distinctive tonal character which is recognized in the dominant 7th chord.

The same principle applies in a modified sense to the secondary 7th chords. Such instances as the following are of frequent occurrence, though care must be exercised to avoid false progressions :

Ex. 646.

Transpose and re-arrange all the examples. * * *

OMISSION.

The root of a concord can not be omitted without destroying its

identity: Ex. 647.

The latter is simply a binary

chord on *e*. With discords the same principle prevails

Ex. 648.

In each instance the nature of the discord changes with the disappearance of its root, and different treatment is required. Some theorists claim that the discord on *G-sharp* is a principal 9th "with the root omitted." This is as unreasonable as to assert that three right angles form a square. The diminished 7th chord is used in composition without regard to a supposed root below the theoretical foundation of the harmony, and it seems to the author like chasing phantoms to call on the imagination in a matter that is based entirely upon practice.

To return to the concords. The 3d is seldom omitted from a major or a minor triad, because the root and 5th sound blank and equivocal. As a general rule it can not be determined whether the chord is major or minor, and in such instances the effect is usually unsatisfactory.

Ex. 649.

Such an arrangement is scarcely conceivable in a standard composition. In two or three-part writing the 3d of the dominant chord may be omitted when it is preceded by the tonic harmony :

Ex. 650.

The example shows two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat). The first phrase, labeled 'a', consists of two measures. The first measure has a tonic triad (F, A, C) in the bass and a dominant triad (C, E, G) in the treble. The second measure has the same chords. The second phrase, labeled 'b', also consists of two measures. The first measure has the tonic triad in the bass and the dominant triad in the treble. The second measure has the tonic triad in the bass and a blank chord (F, C) in the treble.

In the first phrase the key of *C-major* is at once recognized, and there is no doubt as to the major character of the dominant chord. The same is true of the blank chord at (b) in the *A-minor* phrase. But this would not be advisable in four or five-part harmony, because

the progression, Ex. 651. is really an expedi-

The example shows a single treble clef staff with a chord progression. The key signature has one flat (B-flat). The first measure has a tonic triad (F, A, C). The second measure has a dominant triad (C, E, G). The third measure has a blank chord (F, C). The fourth measure has a tonic triad (F, A, C).

ency that occurred originally in a duet, and most probably between two natural horns: For the tone *f* in the following example is not one of the open sounds, and the composer was, therefore, obliged to choose the form at (a), instead of the one at (b) :

Ex. 652.

Horns in F.

The example shows a single treble clef staff with two phrases labeled 'a' and 'b'. The key signature has one flat (B-flat). The first phrase, labeled 'a', consists of two measures. The first measure has a tonic triad (F, A, C). The second measure has a dominant triad (C, E, G). The second phrase, labeled 'b', also consists of two measures. The first measure has the tonic triad in the bass and a blank chord (F, C) in the treble. The second measure has the tonic triad in the bass and a dominant triad (C, E, G) in the treble.

Care must be taken, however, that the blank chord will be recognized as the dominant.

In a final cadence the tonic chord frequently appears without its 5th, because in certain positions of the essential discord there is no note that will resolve naturally to the 5th of the triad :

Ex. 653.

Weber.

The example shows two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat). The first measure has a tonic triad (F, A, C) in the bass and a dominant triad (C, E, G) in the treble. The second measure has the same chords. The third measure has the tonic triad in the bass and a blank chord (F, C) in the treble. The fourth measure has the tonic triad in the bass and a dominant triad (C, E, G) in the treble.

The notes *b-flat* and *d* occur in but one other concord (*G-minor*), but since the dominant 7th chord to *B-flat major* was heard in the cadence, and as the discord was resolved naturally, there is no doubt as to the key-impression. This explanation applies equally to the minor mode.

The foregoing may be summarized: The root of a concord can not be omitted; the 3d is generally essential, but may occasionally be left out under the circumstances mentioned; the 5th is least essential.

The 3d or 5th of a dominant 7th chord can be omitted, according to the nature of the antecedent harmony:

Ex. 654.

The 3d is left out at (a) because *b-flat* effects the modulation, and this renders the leading note unnecessary. At (b) the 5th is omitted, to prevent parallel fifths.

The same is true of the diminished 7th chord when used as a transition harmony:

Ex. 655.

The result upon the tonic chord is the same in both instances. (The 3d of a dominant 7th is more essential than the 3d of a diminished 7th chord, because the latter has no decided resolution.)

Unison passages, when skillfully constructed, frequently suggest the full harmony so plainly that no further harmonic accompaniment is required. Such an instance may be found in the cantata *St. John*, by J. C. D. Parker, from the last measure of page 38 to the end of page 39, vocal score. The unison passage by the chorus conveys the same harmonic impression as that of the chord accompaniment, and it is this circumstance that renders the unisons so effective.

See also Soldiers' Chorus from *Faust*.

Chapter LVI.

RELATED AND UNRELATED TONES.

o. HARMONIC TONE.

EVERY tone that naturally belongs to, or forms part of, any fundamental harmony will here be called a Harmonic Tone. All others are unrelated.

To indicate the related and unrelated notes in exercise work, the author has been in the habit of marking them in regular order, o, 1, 2, 3, 4, 5, 6.

A melody consisting entirely of harmonic notes would, therefore, be marked like this :

Ex. 656.

0 0 0 0 0 0 0

IV IV I etc.

Every melody note here forms part of the accompanying chord.

The student is familiar with this simple mode of harmonization.

1. PASSING TONE.

A passing tone occurs upon the unaccented part of a measure, and does not belong to the accompanying harmony. In this sense passing tones are not harmonized, as the harmony proceeds without regard to their existence.

Suppose an original motive to be this, Ex. 657.

0 0 0

and that it is to be varied in the following manner :

Ex. 658.

0 1 0 1 0

The intermediate note *d* is introduced in passing from *c* up to *e*, and from *e* down to *c*. The harmony remains the same, and the passing note is not, in strict designation, harmonized :

Ex. 659.

The original motive still appears, as shown by the ciphers. The passing note may ascend, or descend, a whole or a half step.

A note of passage may be introduced between the intervals of any chord, but there is no other unrelated note that requires so much care in its treatment. Being unrelated, there is danger of false relation or awkward progression in the two chords between which it occurs. The first example illustrates this. The ordinary harmonization of the skip would be to change the position of the *C* chord,

thus: Ex. 660.

But if the passing notes were

included a very confused progression would result :

Ex. 661.

In such arrangements the proper test is to repeat the chord with the melody :

Ex. 662.

This reveals the faults more plainly, though the example at (b) is similar in effect. Ex. 659 shows how such errors are avoided.

Another simple design is this :

Ex. 663.

Passing notes may be written around this monotonic motive without interfering with the harmony :

Ex. 664.

Where the passing notes ascend through the intervals of a chord it is better to retain the harmony in the same position :

Ex. 665.

The melodic notes that fall upon the accented parts of the measure form the chord of *B-flat*; therefore this harmony constitutes the accompaniment. Every other note, being unaccented, is a passing note.

The melody notes of Ex. 664 may be marked as harmonic, and arranged accordingly :

Ex. 666.

The student is to harmonize this, after which it should be compared with the original. * * *

2. APPOGGIATURA.

This is almost the same in effect as a short suspension, but without preparation. The appoggiatura occurs on the accented part of a measure, and is foreign to the accompanying chord. The term appoggiatura (meaning *to lean upon*) is here applied to measured notes, as well as to the small note that borrows its value from the consequent measured note—its resolution. The harmonic appoggiatura resolves up or down, a major or a minor 2d, to some note belonging to the accompanying chord, thus :

Ex. 667.

Perhaps the scheme will appear simpler if the chord is written in notes of equal value and a short appoggiatura placed before each melody note :

Ex. 668.

Every pianist understands that the small note, *a*, represents a tone that is sounded with *e* and *g* below, and that *c* (the resolution) comes after. In like manner the small note *f* comes with *g* and *c*, the *e* being sounded immediately afterwards.

The same theory is here applied to measured notes.

The accompanying chord is to be determined by the harmonic note which follows the appoggiatura. It is similar in treatment to the suspension.

The student may attempt to harmonize the following melodic phrase according to present information :

Ex. 669.

This requires but two chords, in their different close positions. The upper accompaniment is to be written in quarter notes; the base may consist of a dotted half note in each measure. * * *

Appoggiaturas may occur against the different tones of a discord, as well as of a concord :

Ex. 670.

The note to which the appoggiatura resolves is to be omitted from the accompaniment, excepting when the melodic note is a duplicated root. (In connection with this, see Suspension, Ex. 584.)

If the chord progressions are correct the appoggiaturas will not interfere with the harmony.

The following authentic cadence is given for harmonization according to the symbols :

Ex. 671.

2 0 2 0 2 0 2 0 2 0 2 0

Examine the harmonic notes marked with ciphers, in order to determine upon the chords to be used. The harmony is then to be applied as though only this outline appeared :

Ex. 672.

In copying the theme turn the stems upward, and write the accompaniment in notes of double the value of the appoggiaturas. The two middle parts may follow the theme through the different positions of each chord. * * *

The appoggiatura can appear below, as well as above the harmonic note. In either instance it is an unprepared dissonance occurring on the accented part of a measure. The *ascending* appoggiatura is usually written a minor 2d below the harmonic note. When the appoggiatura resolves down it merely follows the natural order of the scale :

Ex. 673.

2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0

At (a) each resolution ascends a minor 2d. At (b) whole and half steps are used according to the signature.

The same is true of discords. An appoggiatura may be placed above or below any note of any chord. The number of harmonic combinations that result is almost incalculable! There are six in the last example, though only one fundamental harmony is used.

However easily the theorist may account for these combinations (marked 2), the fact remains that a dissonant chord is heard on the first half of each measure :

2 0 2 0 2 0

Ex. 674.

We have, therefore, the benefit of this great variety, even though in the majority of instances a trained ear will comprehend the nature and resolution of these dissonances, and consequently anticipate the consonance before it is fully developed.

If the full chord is sounded as an accompaniment, while the melody appears isolated and independent, every appoggiatura (whether above or below) will cause a dissonance during its continuance :

2 0 2 0 2 0 2 0

Ex. 675.

This is founded upon a consonant triad as fundamental harmony; therefore every note that falls on an accent, and does not belong to the accompanying chord of *G*, becomes a dissonance. Such an arrangement presupposes that the solo is isolated from the accompaniment. But where the harmony and melody are connected by means of their proximity it is not well to include the harmonic note in the middle parts. Measures (a) and (b) illustrate this :

Ex. 676.

The first is much more distinct and harmonious than the second, which generally sounds awkward and confusing. The arrangement at (a) presents the additional advantage of two dissimilar combinations, in place of one :

Ex. 677.

The appoggiatura, thus employed, not only unlocks important secrets of harmonization, but it enables the student to greatly enlarge his repertory of tonal combinations. * * *

Chapter LVII.

RELATED AND UNRELATED TONES CONTINUED.
ILLUSTRATIVE THEMES.

4. ANTICIPATION.

ANTICIPATION occurs when a certain tone of the consequent chord is sounded in advance, usually on an unaccented part of a measure, and before the anticipated chord is heard in its entirety:

Ex. 68o.

The first *a*, occurring on the last of the 2d beat, anticipates the dominant 7th harmony, which falls upon the 3d beat. The tonic harmony is then anticipated by the short, melodic note *g*. These bear some resemblance to passing notes, for both are unaccented. But the passing note does not belong to the following harmony.

The anticipation was much used during the 17th century, particularly in the final close, and it has, in some strange way, become known at the "Haendelian cadence." But this appellation is unjustifiable, since the anticipation was freely used by Italian composers before Haendel was born. An instance is cited:

Ex. 681. *From the Opera "Eritrea." Cavalli (1600-1670).*

The anticipation usually appears singly, though it may be accompanied with other notes, thus:

Ex. 682.

These dissonances (marked 4) do not result from suspended bases, because the harmony above changes before the main accents. The base here is less mutable, and does not quit its position excepting upon the equal divisions of the measure. Compare this with the next example, in which the dissonances are produced by means of retardation in the base :

Ex. 683.

The first movement to Beethoven's sonata, Op. 31, No. 1, contains several instances of accompanied anticipations similar in design to Ex. 682. See also the dance of the Bayaderes (No. II), from Rubinstein's *Feramors*, after the introduction.

5. STATIONARY TONE.

This resembles the organ-point in its general features, but the former term applies to a sustained tone among the upper parts, especially when it is somewhat unrelated to the prevailing harmony. Theorists have observed that the stationary tone does not admit so many dissonant combinations as does the low pedal-note, and this is true. The former can not be considered as a ground-work upon which all kinds of harmonies may be superimposed. The following quotation from a fugue will illustrate this :

Ex. 684.

Observe the dissonances in the 4th and 5th measures. These would not result if the sustained note were omitted.

The object of the stationary tone here (and in all similar instances) is two-fold: 1. To give consistency to the changing nature of the design. 2. To fill in a void between the treble parts and the base. These purposes justify the dissonances, such as *e-flat* and *d*, and *d* and *c-sharp*.

One of the most remarkable and unique illustrations of a stationary tone occurs in a song by Jensen, entitled *Marie*. The last phrase of the vocal part and the postlude are quoted:

Ex. 685.

As an expression of contemplative admiration and constancy this ballad may be classed among the happiest of inspirations. The stationary tone is a prominent feature of the entire song, which is recommended for examination and analysis.

The secret of the student's success (if success he wins) will consist in penetrating the design, and apprehending the object of all such devices as organ-point, stationary tone, appoggiatura, suspension, etc., as illustrated by the great creative artists. It is not sufficient to know that a stationary note may occur in any part except the real-base, and that dissonant combinations thereby result. This is superficial information, for the student must also know the composer's object in writing a stationary note. Why was it included? What would the effect be were it omitted? Is it merely complementary, or does it add unity and consistency to the design?

6. EMBELLISHMENT.

The author applies this term to suspensions and appoggiaturas that do not immediately resolve to a harmonic tone, and also to grace notes and parenthetical groups. The embellishment is a melodic license to which the ordinary principles of harmonization will not apply. The first example is of an embellishment resulting in part from suspension:

Ex. 686.

At (a) neither of the first two melodic notes belong to the accompanying harmony of *C*. The same peculiarity is observable at (b) and at (c). The suspensions do not resolve at once to a consonance, but proceed to another dissonance before the harmonic interval appears.

A similar instance is quoted from Beethoven's Op. 31, No. 2 :

Ex. 687.

The notes of embellishment are marked 6. This excerpt contains notes of anticipation also.

The embellishment is an old device, appearing here under a new name and with a different explanation. Numerous instances may be found in Bach's *Art of Fugue*.

This form of embellishment can be reversed with equally good effect :

Ex. 688.

E. Nevin. Op. 13, No. 5.

The same remarks apply to this.

Sometimes the embellishment includes three or four notes foreign to the accompanying harmony, and at other times a passing note may be included. Both styles are here presented :

Ex. 689.

The group of unrelated notes at (a) is in the nature of a parenthesis. The embellishment at (b) includes a suspension, harmonic, and passing note. Groups (a) and (c) may be considered as the dominant harmony suspended over that of the tonic. These adventitious notes may appear in a variety of forms, but the four examples will give the student a general knowledge of all others.

In transposing the exercises write the melody part first with the necessary ciphers and figures above, and then attempt the harmonization. There is but little to be gained from the mere act of transposing an entire example.

The general treatment of the embellishment is the same, whether it begins with a suspension or an appoggiatura. The latter is necessarily more dissonant; or, rather, the dissonance is unprepared, and consequently more noticeable.

FARTHER APPLICATION.

The artistic employment of these unrelated tones has, to a considerable extent, been illustrated. In addition to what has been shown of the general character of passing tones it may be remarked that any number of them is possible, provided they can be executed between the regular accents of a measure. Thus, the former design,

Ex. 690.

may be written in 16th notes without interfering with the melodic outline or the harmonic substance:

Ex. 691.

In both instances the notes that fall upon the accented parts of the measure are *c*, *e*, *g*; therefore the harmony of *C* will accompany

the melody in both examples. According to a strict designation all the *c*'s and *e*'s were marked with ciphers, as they belong to the harmony; but in actual practice all such notes occurring upon unaccented parts of a measure are passing notes, and will be considered in this light hereafter.

Chromatics may also occur as notes of passage, two or three being included between the harmonic notes. A brief exercise is given for harmonization:

Ex. 692.

Observe that the second and third notes of each triplet are passing notes. The ciphers sufficiently indicate the harmony. * * *

Chromatics may continue through a greater compass and be harmonized collectively, thus:

Ex. 693.

Or, they can be harmonized with the tonic chord throughout. In this instance all the chromatics would be considered passing notes with exception of the first in each measure. The harmony below is a sufficient support for the rapidly passing chromatics above.

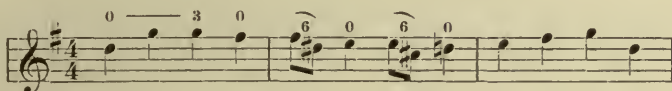
A theme containing appoggiaturas, harmonic and passing notes is here presented to be harmonized according to the indications:

Ex. 694.

Andante. *Concise.*

The notes unmarked are harmonic. No modulations are suggested by this theme. * * *

The following exercise contains the suspension, anticipation, embellishment, and stationary note. It is to be harmonized accordingly:



Ex. 695.



The first of this presents no difficulties. During the last three measures the harmony should make a temporary digression and then return to the key-note on the last measure. In other words, at the beginning and ending of the sustained note the chord is to be that of *G-major*.

The same exercise should be worked out in *F* and in *E-flat*. * *

A considerable amount of material is now available in harmonization, and the first point to determine is the character of the composition.

If a melodic figure like this—



Ex. 696.

should present itself, there would be a choice of several arrangements: 1. The notes that occur on the accented parts of the measure may be considered as harmonic, and the others as passing notes. 2. The accented notes can be treated as appoggiaturas, leaving *g, c, e* as harmonic notes. 3. Every melodic note may be considered as harmonic, and harmonized separately. 4. A series of passing harmonies may be employed on a pedal-note. The four illustrations are presented:

Ex. 697

All these are proper, but each has its own peculiarity. The first is milder and more smooth than the others; (b) is the strongest and most dissonant; (c) is rather detached and fragmentary, and gives a more prominent character to each melodic tone; the last arrangement represents the least possible disturbance of tonic impression.

The nature of the melody, or the situation in which it occurs must, therefore, determine which will be most suitable.

Under this heading may be mentioned the following exceptional instance from the allegro of a Piano Quartet:

Arthur Foote. Op. 23.

Ex. 698. *mp* + + +

A prepared suspension is here followed by an anticipation. The effect is somewhat similar to that of the embellishment.



PART XIV.

Chapter LVIII.

HARMONIC COUNTERPOINT.

ELEMENTARY SPECIES.

SO much is said and so little is understood of Counterpoint that the author has for several years past endeavored to formulate a system for the simplification of this difficult subject. The results are herein submitted.

The definition of Counterpoint is *note against note*. In its strict sense this signifies two or more voice-parts moving independently of one another, each part having its individual melody. A chorus written in canonic or fugal style affords the best illustration of counterpoint. It presupposes a thorough knowledge of all possible chord formations, of inversion, of the theory of harmonic progression, modulation and transition, resolution, harmonization in all its phases, suspension, pedal-point, chord-relation, metre, rhythm, thematic development, etc. Hence the term counterpoint is frequently defined as the art of musical composition in general.

But the word is here used in its specific sense, implying the union of several independent voice-parts as in a quartet, and as opposed to mere chord progression.

The author introduces what he calls Harmonic Counterpoint as the natural solution of strict, melodic counterpoint.

Begin with a simple design in which notes of the same value are employed. The usual form of writing the chords above, with the base on a separate staff, will serve as a nucleus. The student is to complete the following exercise :

Piano form.

Ex. 699.

It will be a simple task to arrange this in vocal form. In order to distribute the parts more equally with regard to the intervals between them, select the *middle part* from each chord above (called in former lessons *mezzo-soprano*), and write this one octave lower in the base staff. The melody (soprano), lowest treble part (contralto), and base are to be copied identically. The result is as follows:

Ex. 700.

Quartet form.

This appears in *open position*, and the manner in which it was accomplished is the very simplest method of producing dispersed harmony.

NOTE.—When the tenor sings from the treble staff, the notes sound one octave lower than written. Therefore that part is here represented exactly as it is sung. Some books mention the lowest treble part as tenor, but if that part is inverted the result will be a very unequal distribution of the parts:

Ex. 701.

No such void should occur between the treble and base parts, excepting where the parts skip temporarily. Ex. 700 is decidedly better. This is why the author designated the lowest treble part as *contralto*, and the middle one as *mezzo-soprano*.^{*} Such designation presupposes that all the parts remain as written, according to former lessons. But when the vocal quartet is to be arranged from a design in close position consider the *mezzo-soprano* as tenor,

^{*} These terms are applied to particular parts, even in piano music, as a matter of convenience, though they have not until the present time been considered as actual vocal parts.

and write it an octave lower. This is sanctioned by musical custom, as may be seen in the following excerpt from the vocal score of *Lohengrin*:

Wagner.

Ex. 702.

S
might - y Judge, I

C
fore Thy high de-

T

B * * * *

Piano. * * * *

As the quartet is unaccompanied the piano part is included merely for the convenience of the accompanist at rehearsal. Observe that the part between soprano and contralto (marked T) is represented in the accompaniment an octave lower, not according to the notation of the treble staff. This results in an open position, as it does when sung by the mixed voices of the quartet. Custom has made this right, but to be precise in its representation the tenor part should be written with the tenor clef.

This is what the author calls an elementary species of harmonic counterpoint.

Although it is constructed by means of chords, while strict counterpoint is not, the somewhat independent appearance of the different voice-parts, together with the fact that it furnishes a good example of plain quartet writing, make it very serviceable for present purposes.

As a temporary guide to the student the following limits for each voice-part are given:

Ex. 703.

Bass. Tenor. Contralto. Soprano.

In simple quartet writing there will be no occasion to transcend these limits.

Another elementary exercise is given :

Ex. 704.

Ex. 704 shows a simple harmonicization in close position on a grand staff. The treble clef staff contains a melody with eighth notes and quarter notes, and the bass clef staff contains a bass line with quarter notes. Roman numerals I, I, IV, I, II are placed above the bass line, and the numbers (2), (3), (1) are placed below it.

Complete the simple harmonicization in close position, and then arrange it in quartet form. Copy the first, third and fourth parts (counting from the soprano downward), and write the tenor part in the base staff, one octave below its original position. No unrulable progressions will result from the inversion in this example. Not all designs admit this process of inversion, for parallel fourths in the piano arrangement become parallel fifths in the open position. In such instances contrary or oblique movement must be employed. This has been explained. * * *

The last quartet arrangement is here presented for comparison :

Ex. 705.

Ex. 705, labeled "Quartet.", shows a quartet arrangement on a grand staff. The treble clef staff contains four parts (Soprano, Alto, Tenor, Bass) with eighth notes and quarter notes. The bass clef staff contains a bass line with quarter notes. Roman numerals I, I, IV, I, II are placed above the bass line, and the number (3) is placed below it.

This is perfectly correct and singable. There is considerable melodic character, to the various voice-parts, and a very agreeable interval is maintained between soprano and contralto, contralto and tenor, and tenor and base.

Elementary species of harmonic counterpoint may contain any natural chord progressions, modulations, different kind of cadences, principal and secondary 7th chords, skips, etc. Unrelated notes, organ-point, and chromatic progressions are to be reserved for the other species.

A more transitional exercise is now presented for arrangement :

Ex. 706.

I I II I IV I
 (2) (1) (2)

The inverted bases are an important feature here, as they give to the lowest part a melodic movement very desirable in the quartet form. In changing this from close to dispersed harmony the student is to understand that the tenor is the only part to be inverted.

The tenor and the base may occasionally come together upon the unison, but the base must not ascend above the tenor.* In such instances write the base an octave lower, for it is not well in these exercises to alter the tenor part. * * *

The theme next introduced is to be arranged in close position, and then as a quartet in the manner explained. Every melodic note is to be treated as a harmonic note. The skips of a 3d and a 4th, and the temporary modulations are to be managed according to the usual methods :

Ex. 707.

When there is no accompaniment it is usually better to so arrange the essential discord that the last tonic chord will appear in its entirety. The 3d or 5th of the discord must necessarily be omitted, unless the base is inverted. See Exs. 700 and 706. * * *

The modulation indicated by *f-sharp* can be written in various ways :

Ex. 708.

a b c

* Some charming effects have been produced by the crossing of voices, above and below. Witness the quartet for men's voices in Mendelssohn's 42d Psalm. But this belongs to strict counterpoint, and can not be considered here.

In the first example the cadence is direct; but this renders the *A-minor* chord necessary on account of the skip. At (b) an avoided cadence is effected. This makes the *F* chord necessary, because of the second skip, *e* down to *c*. The *F* chord is then changed to that of *D-minor* to avoid the awkward progression from sub-dominant to dominant, when all the parts ascend, thus:

Ex. 709.

The musical notation for Ex. 709 consists of two staves. The upper staff is in treble clef and contains two chords: a triad of G4, B4, and D5, followed by a dyad of G4 and B4. The lower staff is in bass clef and contains two chords: a dyad of G3 and B3, followed by a dyad of G3 and B3. The label "Bad." is placed between the two staves, indicating a problematic progression.

In the last arrangement (c) the 5th resolution of the dominant 7th is used because all the notes of the fifth measure comprise the chord of *C-major*.

All these arrangements are available, and should be used in the different transpositions.

The same process is to be worked out in *B-flat* and in *D-flat*.

Chapter LIX.

HARMONIC COUNTERPOINT CONTINUED.

COMPOUND SPECIES.

BY including in the quartet various kinds of unrelated notes, thus making the parts unequal in rhythmical value and different in harmonic character, we produce compound, or mixed harmonic counterpoint. An avoided cadence is selected for preliminary illustration:

Ex. 710.

The musical notation for Ex. 710 is divided into two parts: "Piano" and "Quartet". The Piano part is in treble clef and shows four measures of chords labeled 'a', 'b', 'c', and 'd'. The Quartet part is in bass clef and shows four measures of single notes corresponding to the Piano part. The notes in the Quartet part are: a (G3), b (B3), c (D4), and d (F4). The label "Ex. 710." is placed to the left of the Piano part.

Measures (a) and (b) are sufficiently correct as mere chord progressions; but in a vocal quartet the effects are awkward and ragged. The fourths at (a) become fifths at (c) between contralto and tenor. At (d) the parallel fourths between soprano and tenor are almost as inharmonious as parallel fifths. Several methods for avoiding these inaccuracies in vocal part-music are represented. The first relates to the upward resolution of the 3d of the discord :

Ex. 711.

The fourths and fifths are here resolved contrarily, and the example thereby assumes more of a contrapuntal character; for this is one of the governing principles in polyphonic writing. Not that the counterpoint shall consist of thirds and sixths, like a Glover duet, but that these intervals represent the maximum of euphonious harmony between the parts, and when so written they can not be wrong. Observe particularly the parts that ascend and those that descend.

The awkward progressions in Ex. 710, (c) and (d), may be avoided also by suspending the resolution of the 3d and 5th, or of the 7th, thus :

Ex. 712.

The augmented, followed by the normal 4th, is obviated at (a); parallel fifths between contralto and tenor are avoided by the suspension of the 7th at (b).

An important feature of counterpoint, and one that did not enter very prominently into previous lessons, is the separate, independent movement of the voice-parts. This is partially illustrated in Exs. 711 and 712. A farther view is presented by the following from Haendel:

Ex. 713.

etc.

The treble part is composed exclusively of harmonic chord figures in sequence order: *A, D, G, C*. Against these the base parts alternately ascend alphabetically, which necessarily results in dissonating intervals. These are marked 2, for in strict designation they are appoggiaturas. This is Counterpoint; therefore observe particularly the dissonances, and how these result. Perform and transpose the last example. * * *

Another important secret of counterpoint is to be found in the theory of Suspension. That is, any dissonance is allowable that results from the detention of one part while another part moves away from (or toward) the stationary note:

Two voices.

Ex. 714.

a b c d

The second voice enters upon the unison at (a) and descends a minor 2d at (b) while the first voice sustains *g*. This results in an extremely dissonant interval. At (c) the second voice descends another half step, and the dissonance is reduced to a minimum. At (d) the lower part descends to *e*, and this results in a most agreeable consonance. The stationary note is its own justification, while the lower part moving away from the suspended note presents a sufficient object for the progressions described. A base may be added to this duet by writing a part in contrary movement to the under treble part:

Ex. 715.

a b c d

The upper progression points to the subdominant; therefore the base melody leading up to that note is desirable, especially as its notes

harmonize perfectly with those of the contralto. The student may form a quartet out of this design by adding another part above the stationary note. * * *

The example, with its analysis, is presented :

Ex. 716.

The base and soprano parts move up at the interval of a 10th; the tenor descends chromatically in harmony with the base; the contralto remains stationary.*

The student is advised (if this design is well understood) to write a stationary note on the tonic of the *F* scale, and, without consulting the printed examples, add the other parts synthetically, so that they will correspond to the last exercise. Like all contrapuntal designs, this admits of re-arrangement and inversion, which should now be done. The suspended note may appear in the soprano, contralto, or tenor parts; or the base may exchange parts with the soprano.

* * *

Before proceeding with the exercises the author will attempt to give the intervals, considered separately, that produce the most satisfactory results in two-part counterpoint. No distinction is here made between dissonances and consonances, as the object is to show what intervals may be employed simultaneously, one being a counterpoint to the other.

The unison and octave come first. They perform important parts, as shown by Ex. 716. Then the minor, major, and augmented 2d; minor and major 3d; imperfect and augmented 4th; imperfect and augmented 5th; minor, major and augmented 6th; diminished, minor, and major 7th. (The 9th, 10th, 11th and 12th are here considered as inversions of the 2d, 3d, 4th and 5th.) Following are these intervals in notation :

* A phrase of similar construction may be found on the first page of Beethoven's Op. 27, No. 1. It is preceded by the reiterated chord of C-major.

Ex. 717.

Some surprise may be occasioned by the fact that the normal 4th and normal 5th are excluded from this scheme, especially since the 5th was employed so prominently by the old contrapuntists. This interval used to be so highly esteemed that it was frequently included in the final chord to the exclusion of the minor 3d! Even during the 18th century certain composers preferred resolving the leading note down a major 3d rather than omit the 5th from the final chord. However, the 4th and the 5th are generally unsatisfactory when employed alone.

Musicians of different epochs have entertained different notions regarding the character of intervals. Until the advent of Mozart it was customary to terminate *minor* compositions with a *major* chord, because the small 3d was not believed to be sufficiently euphonious for a final ending. But Mozart, whose delicacy of tone-perception was phenomenal, did not accept all the old canons and theories. Among the important improvements that he effected was the less prominent treatment of the 5th, and a freer use of the small 3d. The normal 4th is even less satisfactory than the 5th.

The situations in which the 5th may be used were explained in Chapter LV; and when those conditions exist the normal 4th may also be employed, one being an inversion of the other:

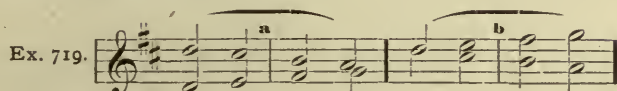
Ex. 718.

Reinecke.

In the first measure the 5th is founded on the dominant, and the key is sufficiently established to determine the fact that the major 3d (*c-sharp*) is here omitted. In the second measure all the intervals appear inverted.

Where these peculiar conditions do not exist, the 4th and the 5th

will generally sound unsatisfactory. The following instances are cited in proof of this :



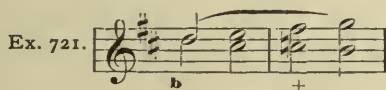
The counterpoint is good, with exception of the 4th at (a) and the 5th at (b). No reputable composer would write such examples as these in a serious work, for they are ambiguous and unsatisfactory.

To preserve the original theme the counterpoint should be like this :



An imperfect 5th takes the place of the normal 4th, and every interval is satisfactory.

To preserve the theme at (b) the counterpoint is arranged in this manner :

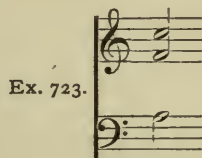


The substitute here for the normal 5th is an augmented 4th. These are decided improvements upon Ex. 719.

In full harmony the 4th and 5th are perfectly proper, because other intervals are combined with them. Thus, *g* in the *C* chord is

not alone a 5th from *c*, but a 3d from *e*: Ex. 722.  And

in the next example the blank in the upper parts is filled by the inverted base :



No ambiguity results in such instances.

The principle of agreement between two prominent voice-parts

(as illustrated in Exs. 720 and 721) is frequently employed in full harmony. The following extract from a Barcarolle is a good example:

Ex. 724.

Tschaikowsky.

Andante.

The real-bases were especially designed to harmonize with the melody, those two parts being heard simultaneously on the first and last of each measure. Note particularly the euphonious effect of the intervals marked +. This is, of course, more noticeable when the melody and base are heard without other harmony.

Hundreds of similar instances might be quoted. Observe, for instance, the relation between melody and base in Schubert's little ballad, *Hedge Roses*, a section of which is quoted:

Ex. 725.

The designs for harmonic counterpoint are now resumed. Suspensions and appoggiaturas contribute materially to the independence of the parts, and are, therefore, valuable adjuncts. For instance:

Ex. 726.

By arranging this in open position a fair specimen of the quartet style is obtained :

Ex. 727.

Every musician perceives at a glance that this is correct.

The first interval of a 7th becomes a 6th ; the second 7th becomes a 5th, and *a* in the tenor part connects the two chords. From this point the intervals between the middle parts are a 6th, 7th, and 6th :

Ex. 728.

The main point to observe is the intervals that should not follow each other in similar movement, such as seconds, fifths, sevenths, and octaves. In the last example the 7th resolves to a 6th ; the 5th between contralto and soprano becomes an augmented 4th (*f* and *b*), and this resolves to the final 6th.

We have here the principal movements : Oblique and contrary.*

Attention is also directed to the different rhythmical denominations of the notes in Ex. 727.

The next exercise is to be harmonized in close position, and afterwards arranged in quartet form :

Ex. 729.

The first chord is designed to be that of tonic major. *C*♯ in the second measure can be treated as an appoggiatura, or as a harmonic note. On the last half of the third measure the harmony should be changed.

The manner of producing the quartet remains the same : invert the mezzo-soprano part an octave lower and it becomes tenor. * * *

The next theme contains passing notes, inversions, modulation, suspension, and an anticipation at the close :

* Students should analyze all the voice-progressions carefully until such analyses become unnecessary.

Ex. 730.

On the last of the second measure an 8th resolution of the dominant 7th chord is outlined; or *c* in the base might, if the movement were quick, be considered a passing note.

Complete the arrangement in piano form, and then change it into dispersed harmony. * * *

As the final cadence is peculiar, the student may find these illustrations useful; or he may employ one of his own invention:

Ex. 731.

One more theme is included. In the cadence a changing harmony is to be introduced on the resolution of an appoggiatura:

Ex. 732.

Notes not marked are harmonic. Transpose to *E-flat* and *G*, and arrange in quartet form.

* These notes may also be treated as appoggiaturas.

† The notes numbered 3 are treated as appoggiaturas.

Chapter LX.

HARMONIC COUNTERPOINT CONCLUDED.

ORNATE SPECIES.

A STILL more independent and flowery species of harmonic counterpoint is here introduced. This is accomplished in various ways. The simplest method is to include natural or chromatic passing notes in any of the voice-parts that move a major 2d or a diatonic 3d.

PRELIMINARY EXAMPLE :

Ex. 733.

No intermediate passing note is possible in the soprano part, nor in the tenor. But between *d* and *e* of the contralto part a note of passage can be introduced in ascending, and likewise in descending. As these do not interfere with the other parts (the notes of the contralto not being duplicated) they may be freely introduced :

Ex. 734.

The chromatic alterations possible are too numerous to mention, but a sufficient number will be given. It is not well to sharpen the root above, unless the root below remains as a pedal note :

Ex. 735.

Diatonic passing notes may be included in the base whenever that part proceeds by thirds.

Suppose this to be the original :

Ex. 736.

Between the lower root-notes we may write *c* and *a*, because they occur naturally, and give to the base a regular melodic progression :

Ex. 737.

Compare this with the previous example.

Of course the passing tones must form correct progressions with the other parts and not produce unmusical relations, as in the following :

Ex. 738.

In such instances similar movement should be avoided. A simple harmonic design is presented for elaboration. First add the other three parts to this base :

Ex. 739.

After completing the simple harmonization as indicated, the passing notes are to be written in the base between the root-notes. (See Ex.

737.) When any of the upper parts move in similar direction with the base, care must be exercised that no false progressions result.

* * *

The chromatic passing notes should now be supplied. Those most available here have been illustrated in Ex. 734.

The passing note between the 3d and root of the essential discord may be accompanied with a corresponding note of passage in the soprano part.

An inversion of the design will illustrate this :

Ex. 740.

The root and 7th remain stationary while the other parts ascend and descend in thirds. This may be freely inverted or re-arranged. Such designs are always effective, and tend to relieve the monotony of common chord progressions. (See Ex. 706.)

When the example is sufficiently elaborated it is to be arranged in quartet form as usual. * * *

The original base part of Ex. 739 should be transposed into *G*, and *B-flat*. Then work it out in the same manner. If the base runs too low it is better to skip up an octave than a 7th :

Ex. 741.

The first measure is not good vocally ; (b) is better ; (c) is best of all.

The second method of producing this kind of harmonic counterpoint is to include more or less ornamentation in the different parts. Unrelated notes and organ-point will serve as a nucleus for this species. Wherever the unrelated notes may appear they are to be treated in the same manner as though they occurred in the soprano part. Here, for instance, is a design in which a melodic figure passes in sequence-form through all the voice-parts. This would be effective as a vocal or an instrumental quartet :

Ex. 742.

The melodic figure appears alternately in the soprano, contralto, tenor and base parts. This relieves the effect of chord movement and imparts to the design a contrapuntal character. The suspensions serve as connecting links, and to prevent such awkward progressions

as this, Ex. 743. which would otherwise have re-

sulted between the soprano and tenor. Transpose Ex. 742 into *E-flat* and *F*.

Attention has been directed to the fact that consecutive seconds should not follow each other. The author would also include among the unmusical parallel movements two or more normal fourths, or an augmented, followed by a normal 4th. Parallel fifths are generally condemned, especially in counterpoint. Successive sevenths in similar movement are as inharmonious as consecutive seconds. (It has been remarked in a previous chapter that augmented sixths should not follow each other, for they sound the same as do minor sevenths.) The only intervals that remain for practical uses in similar movement are: The unison, major and minor thirds; major and minor sixths, and diminished sevenths. Unison passages (employed for the purpose of strengthening a certain melodic part) may occur in any two parts, excepting the base and soprano. These must not be confused with what are called "parallel octaves."

Normal fourths, when they form part of a triad progression, may follow one another; but as they form fifths when inverted they must be used with discretion. In good counterpoint they are seldom employed.

Imperfect fifths and augmented fourths can be used in parallel movements for a chromatic harmonization, but these intervals must be accompanied with some other tone of a principal discord, as shown in Chapter XXXIX. See the coda to *Au Matin*, by Godard.

So much for the *parallel progression* of any two voice-parts.

Other parts, opposed to these, result in all kinds of intervals. But these occur singly, not consecutively, thus:

Ex. 744.

Here are seen a 9th, a 7th, and an imperfect 5th, from the lowest to the highest part. But none of these intervals are consecutive, since the two parts above move in contrary direction to the lower parts. The 9th becomes a 7th, the 7th becomes a 5th, and this resolves to a 3d.

This is more contrapuntal than harmonic, and where the upper and lower parts move in opposite directions they frequently result in dissonant combinations so harsh and incongruous as to be otherwise intolerable. For instance, here is a passage frequently used:

Ex. 745.

It would be absurd to call this harmonic progression. Of the four dissonant combinations marked + only the last one resolves according to any rule or principle. The others forcibly pursue their way to the final tonic chord. The example consists merely of the major scale in contrary movement, with an additional counterpoint added in thirds and sixths. It is sufficient that the last two chords harmonize.

The student should analyze minutely all these illustrative fragments in order to discover the various conditions that create the dissonant intervals, thus:

Ex. 746.

This begins with a consonant chord. By merely moving the solo base to the notes below and above the tonic, while the upper parts remain passive, a series of dissonating intervals result. The melodic groups in the base revolve around the harmonic tone in a perfectly natural manner, and the resulting dissonances are not only justifiable, but desirable.

The next illustration is somewhat similar, though there is a counter-theme above:

Ex. 747.

5th, 6th, 9th, 10th, 11th, 10th.

0 1 0 1 2 0 0

The fractional figures in the middle show the intervals from the base to the soprano; the other figures indicate the character of the unrelated notes. As the two middle parts remain passive, merely consider the extreme parts. The 7th is a passing note, and the 9th results from the contrary movement of base and soprano. This discord on the last beat is the dominant 7th, the *d* below being a passing appoggiatura that occurs naturally in the descending melodic figure. The dissonant 9th becomes a consonant 10th immediately. At the close the solo base ends upon the tonic, while the upper parts do not resolve until later. Thus all the disagreeing intervals are the result of favoring circumstances, and present an unmistakable object for their appearance.

The pedal-note may also form a nucleus for this ornate species; though the suspended base presents some difficulties to the singer, especially if it be long continued, or if the upper harmony is of a chromatic character. The well known *quando corpus* from Rossini's *Stabat Mater* is an instance. This was written as an unaccompanied quartet, but the author has known professional singers to fail miserably in their attempts upon this composition. The following extract from an original Hymn is somewhat similar, but the chorus bases are here re-inforced by the 'cellos, double bases, horns, and kettle-drum:

Ex. 748. *f* **Chorus and Orchestra.**

Timp.

O - ra pro no - bis, no - bis pec - ca to - ri - bus

nunc et in ho - ra mor - tis, in ho - ra mor - tis nos - trae

This begins with the tonic chord, and while the bases remain as pedal-note the other parts ascend chromatically through a series of major chords. In the 6th measure the base becomes again consonant to the other parts. Such designs are impossible to the average chorus singer, unless assistance is afforded by the instrumental accompaniment.

Pedal passages like the following present no difficulties and are always effective :

Ex. 749.

The dissonances are well prepared and of brief duration. The upper parts are sufficiently independent to form good counterpoint with one another against the pedal-note.

The embellishment and the stationary tone can be made to serve good purposes in florid harmonic counterpoint. These may occur in any of the upper parts, though the former is better suited to the soprano part if it contains several foreign tones. A simple illustration of this follows :

Ex. 750.

This is especially adapted to the quartet form, for if the tenor part were written an octave higher the embellishments would sound somewhat confused. As it is, the distance between the voice-parts is both convenient and agreeable.

Finally a series of suspensions may be introduced with the same general result. The principle of suspension as explained in a previous chapter is not difficult of comprehension, but some of its phases are so complex as to require both skill and ingenuity in their management. A familiar design is selected as a nucleus:

Ex. 751.

Suspend the progression of the lower part from the last half of each measure, thus:

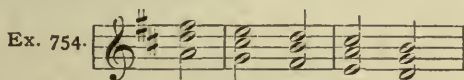
Ex. 752.

The elementary theory is illustrated here. This can be utilized in various ways: A third part may be added a 6th below the soprano and the sequence thus continued.

An additional advantage to this plan is that it can be freely inverted, and the retardations may occur in the soprano or tenor parts. The manner in which the chords follow one another does not admit a series of fundamental bases; but the design naturally rests upon a tonic pedal-note. An example of this, with the suspensions in the tenor part, is represented:

Ex. 753.

The tenor part becomes more prominent on account of the suspensions, and a very ordinary progression,



is thus made interesting.

The student should re-arrange Ex. 753 with the suspensions in the soprano part. The descending tendency of the progressions must be considered, that the tenor may not interfere with the pedal-note. Therefore it will be necessary to begin the tenor part at a considerable interval from the base, as at (a), unless the former be made more florid, as at (b):

Ex. 755.

In an instrumental quartet the second arrangement would be preferable.

Or the rhythm could be enlivened by brief imitative passages between the middle parts, thus:

Ex. 756.

It would be a useful practice to transpose the base and soprano of this into *A-flat* and *G*, and then attempt to supply the middle parts without consulting the printed exercise.

This chapter will be concluded with a quotation from a choral melody harmonized by that Past Master of counterpoint, Sebastian Bach:

Ex. 757.

The passing notes and suspensions are here indicated that the reader may more readily appreciate the construction. Aside from these unrelated notes appearing in the various voice-parts, this is based upon a simple harmonic design not materially different from some of the previous illustrations. In fact, the aim has been to deduce principles from the works of standard composers, and to lead gradually to this point in quartet writing, for the practice of all masters is similar in these respects. The underlying principles are fundamental, and must be the same in all countries.

We know that certain passing notes may be filled in between certain intervals of any harmonic design; and that appoggiaturas, suspensions, anticipations, and stationary tones can be included in any part, either for the sake of grace and ornamentation, or to make a particular voice-part more independent. Added to this information we know what single intervals produce the most satisfying effects when heard simultaneously, and what intervals may safely follow each other consecutively. Thus equipped, the intelligent student will experience no great difficulty in comprehending the intricacies of canon and fugue.

The examples of the different species of harmonic counterpoint may serve for organ arrangements in dispersed harmony, for a simple string quartet, or for a vocal quartet or chorus.

Chapter LXI.

HARMONIC ACCOMPANIMENT ILLUSTRATED.

THE accompaniment is now to be considered separately. In a general sense it is secondary to the melody, though the best accompaniments are those that are complete in themselves.

Primarily the accompaniment is to consist of certain chords suggested by the melody, and these chords are to be arranged according to the principles of harmonic progression. Observe the following section of a theme from Rubinstein's Op. 13:

Ex. 758.

The harmonies are sufficiently indicated here. In the second measure $c\sharp$ is, of course, an appoggiatura. A simple arrangement of this may be attempted. * * *

The composer's solution is given, not for comparison, but as a study:

Ex. 759.

Any position of a chord may be used in the accompaniment, this being a matter of taste, rather than of theory. A certain position might, however, bring the accompaniment into such proximity to the melody that the effect would be indistinct or confused.

In the next fragment the melody traverses a considerable space, and in such instances the accompaniment, being very nearly stationary, appears first below and then above the theme.

Ex. 760.

Where the melody does not skip, the chords may be re-arranged in this manner :

Ex. 761.

This form makes the accessory parts more prominent, and is better suited to a sustained melody in measured notes.

The broken chord, or arpeggio form, is much used in accompaniments. It is usually advisable to conduct the chords as though they occurred in regular progression. For instance, the design at (a), if performed in sixteenths, would appear as at (b) in this example :

Ex. 762.

This is not always essential, but it is always correct. Until the student has acquired some experience in this matter it would be well to perform such designs as the last (b) in simultaneous form, as at (a), in order to test the correctness of the chord progressions, for they are in a harmonic sense identical.

From this last we may derive the harp-like form, embracing two or more octaves :

Ex. 763.

This arpeggio style is conducted in the same manner, only the latter is more ornamental.

A design like this (or like that of the previous example) once begun should be continued, at least during the length of a period. The accompaniment to the soprano solo *Inflammatius* represents a more independent type. It consists of passing appoggiaturas above and below the reiterated chords. One phrase of this will suffice to show the design :

Ex. 764.

This style of accompaniment is continued throughout the solo part.

It is not the purpose here to give a great variety of styles for these adventitious parts, but merely to indicate their character. The broken chord or arpeggio forms represent the same harmonic substance, and are generally conducted in the same manner as chord progressions. But there are some additional features to be mentioned.

1. In relation to melodic skips that could not very well be harmonized individually on account of their length. Such is the following :

Ex. 765.

Flute.

Piano.

To attempt to follow these melodic skips with the chord accompaniment would be impracticable, even if it were desirable. As here written the piano part is simple, correct and effective.

2. Where the theme is so rapid as to make it impossible to move the harmony at the same rate of speed. In such instances merely mark the rhythm and indicate the harmonic substance, thus :

Ex. 766.

Violin.

Piano.

p

The harmonic impression created by the theme is fully represented by the accompaniment, and on account of the florid nature of the violin part the accompaniment is made as simple as possible. This principle may be generally applied.

3. Still another situation presents itself when the melody progresses in such manner as to violate the rules of resolution if the harmony should follow the theme :

Ex. 767.

J. S. Bach.

Thy Je - sus is here.

The skip from the leading-note down a major 7th to the tonic would certainly be incorrect as a harmonic progression, but as the accompaniment is conducted regularly the melody may skip about as the fancy of the composer suggests. A somewhat similar instance occurs in that excellent song "O wretched slave," from *Paul and Virginia*:

Ex. 768.

our trust be - trayed

f *Massé.*

The leap of a 9th in the vocal part is characteristic of the sentiment, and was a clever stroke, but this does not apply to the harmony. Observe that the chords in the accompaniment as written by the composer are in strict conformity to our principles of harmonic progression.

In reference to appoggiaturas and suspensions the author has had occasion to remark that the resolution of the dissonant tone is omitted from the remaining parts of the harmony whenever the melody and accompaniment are comprehended in one design, as here:

Ex. 769.

Either the harmonic quartet, or such piano arrangements as this, are to be treated in the manner illustrated. Each of the harmonic notes indicated by ciphers (when preceded by an appoggiatura) is to be omitted from the accompanying harmony,—the root in the base always excepted. But if the melody issued from a different instrument, and especially in a higher or lower register so as to separate it from the accompaniment, then it would not be necessary to omit any part of the harmony on account of the temporary dissonances. Compare this with the previous example:

Ex. 770.

The musical score for Ex. 770 consists of three staves. The top staff is for the Flute, showing a melodic line in G major with fingerings 2 0 2 0 and accents. The middle staff is for the Piano, showing a sparse accompaniment with some rests. The bottom staff is the bass line for the Piano, showing a simple harmonic accompaniment.

The fact that the solo is here considerably removed from the piano part renders this plan more necessary; and it is also better to make the accompaniment complete in itself—especially when the solo issues from a *different kind of an instrument*, as in the last example. Arrangers frequently make the mistake of writing blank and naked intervals in the piano part, trusting that the other instrument will complete the effect. This is generally a false hope, especially if the *timbre* of the two instruments is different, as in this instance from a Rigaudon by Rameau :

Ex. 771.

The musical score for Ex. 771 consists of three staves. The top staff is for the Violin, showing a melodic line in G major. The middle staff is for the Piano, showing a sparse accompaniment with some rests. The bottom staff is the bass line for the Piano, showing a simple harmonic accompaniment.

The great French composer and theorist is not responsible for the unsatisfactory thinness of the accompaniment, as this is an arrangement for violin and piano by W. Lenz. If both parts were played by the pianist the fault would disappear, but where a violin or flute plays the melody the piano part sounds unsatisfactory.

In the following cadence to a piano duo by Bach this point is farther illustrated. A blank 5th occurs in the first piano part, but this vacuum is supplied by the second piano, which sounds the major 3d :

Ex. 772.

Piano I.

Piano II.

The effect is the same as though the last chord issued from one instrument, excepting the unison *D*. Both *D-minor* fugues are written in this manner, and no fault appears.

Another form of accompaniment consists in duplicating the unrelated notes of the melody either in the unison or octave. In vocal music this affords some assistance to the singer (though this is seldom necessary), and adds to the interest of the associate part, thus :

Ex. 773.

Voice.

Lassen.

I think of thee

etc.

The principal occasion for this style of accompaniment presents itself here, where the proximity of the vocal and instrumental parts renders it necessary. The effect of the unrelated tones is more noticeable because of their duplication in the piano part. The additional dissonances that would otherwise result are here absent. Even when the melody is somewhat removed from the associate parts this plan may be adopted with good effect. Observe this illustration :

H. W. Nicholl.

Ex. 774.

Where the accompaniment proceeds with the regular fundamental harmonies, irrespective of the disagreeing tones in the solo, it presupposes that the melody is more animated and ornamental, and that it is considerably removed from the neighborhood of the accompaniment:

Oboc.

Ex. 775.

Under the circumstances this is sufficiently proper; but the fact remains that this plan is generally inferior to that of Exs. 773 and 774.

The most common form of accompaniment to a quartet or chorus is to transcribe the vocal parts almost exactly. When these are independent they neither require nor admit the same amount of extraneous embellishment as does a solo. Even to some of the examples of harmonic counterpoint a figured accompaniment would sound incongruous and confused. (Such, for instance, as numbers 742 and 749.) If the vocal parts are in plain harmony we may repeat the chords in notes of quicker succession, or employ the arpeggio or broken chord forms.

Or a design more or less ornamental may be given the instrumental parts, as in the tournament of Song from *Tannhauser*; the chorus "Down with the Moslem!" from Buck's *Don Munio*; the last chorus in *Dream Pictures* by G. E. Whiting; or the *Kermesse* in the second act of *Faust*. In the latter the principal themes of the well-known waltz are heard in the orchestra as a musical coloring to the scene, while the chorus parts merely consist of harmonic outlines. See also the last of No. 3 in Mendelssohn's 95th Psalm, after the triplet figures appear in the accompaniment.

A brief quotation from Haydn's Imperial Mass will show the usual mode of procedure when the vocal parts are merely harmonic :

Ex. 776.

Glo - ri - a, glo - ri - a,
Glo - ri - a, glo - ri - a,

The instrumental base is slightly more animated than the chorus base, and the former is also altered in a few unimportant particulars.

When the choral parts are more measured, buoyancy and animation may be imparted to the movement by adopting some such plan as this from the finale to "The Heavens are Telling":

Ex. 777.

"The Creation."

dis - plays the firm - a - ment.

Some designs do not, on account of their simplicity or their completeness, require any elaboration in the accompaniment. Among numerous instances of this kind the following from a four-part song by Sir G. A. Macfarren is selected:

Ex. 778.

S
p
Sigh no more, la - dies,
A
T
Sigh no more, la - dies, sigh no more, la - dies,
B
p

The accompaniment here is a literal copy of the vocal score, the tenor part being represented in the base staff according to the real pitch when sung by a man. The accompaniment to part songs of this character may very well be dispensed with, except for purposes of rehearsal.

As a continuation of this subject the student will receive much benefit from selecting simple songs, copying the melody, and then writing an accompaniment according to the nature of the theme and the plans herein suggested. Afterwards more elaborate songs may be chosen for harmonization.

The accompaniments to a volume of choice songs are in themselves an excellent study, and in many of the modern classical songs the instrumental part is frequently the most important.

PART XV.

Chapter LXII.

INTERDICTED PROGRESSIONS AND FALSE RELATION.

THE author has thought best to treat of these topics secondarily, as they might occur in connection with the various lessons; for he believes that much of what is commonly "forbidden" is mere bugbear.

Mozart and Beethoven were hampered by the countless rules and restrictions of theorists, and the young composer who is ambitious will be obliged to defy many of these injunctions, or suppress his originality.

CONSECUTIVE PARALLEL FIFTHS.

These have occasioned more discussion than any other progression, and under ordinary circumstances they are certainly incongruous and unsatisfactory. The prohibition of parallel fifths should apply more particularly to the quartet style of writing, and to places wherein the fifths occur prominently. But if a composer desires to produce a rough, rigid, or blank effect, he may purposely choose these interdicted intervals, as Mr. E. S. Kelley has done in his *Macbeth* music.

Where the fifths occur in the lower or middle parts, and are somewhat concealed by the melody above, there is little or no reason in condemning them. So many instances like the following have been written that it is scarcely necessary to explain them :

Adagio. *Beethoven.*

Ex. 779. *p*

The *e-flat* being retained throughout the measure, and the *f* of the melody, both contribute to the good effect, which is really this :

Ex. 780.

Grieg, in his Op. 35, repeats a phrase a minor 3d above, each chord being in its first position. All the parts ascend in similar movement :

Ex. 781.

Had such a passage come under the notice of Fux, Kirnberger, G. Weber, or Marx, they would have been horrified; for not only are the parallel fifths unconcealed, but they are emphasized with strong accents. And a fault equally grievous, in the opinion of past theorists, lies in the "cross relation" of both phrases. Yet how suggestive of the quaintness and incitement of northern life are these very transgressions of musical rule !

The next example presents parallel fifths moving by regular steps :

Ex. 782. *Grieg. Op. 22.*

The melody is above, and the fifths occur in the accompaniment. These are paliating circumstances, if any be needed. But in truth the principal charm lies in the unusual mode of harmonization, which infuses into the music a distinctive character and coloration.

A remarkable passage, containing a series of corresponding fifths, is here quoted from the ballet music in Rubinstein's *Feramors* :

Ex. 783.

These result from the resolution of an augmented 6th chord, No. 1, direct to a major chord. But this is necessary on account of the chromatic progressions.

Theorists agree in allowing the imperfect to follow the normal 5th; the reverse of this is not so good:

The effect at (b) is inclined to be rough and generally unsatisfactory. By retaining the tonic a more satisfactory result is obtained:

Such progressions as the following from Meyerbeer (a) are of frequent occurrence, though this fact does not excuse them. At (b) the faults are avoided, and without changing the melody or the harmony:

Ex. 786.

“HIDDEN” FIFTHS AND OCTAVES.

Another restriction of harmony book-makers, and one that has very little practical justification, is in relation to hidden, or covered, fifths. They occur in such progressions as these,

Ex. 787.

which have already been explained. But these speculative gentlemen write a passing note between *e* and *g* to show that a 5th *can be imagined* when the contralto skips up a 3d. The author has no hesitancy in asserting that this so-called fault lies entirely in the imagination of those who consider it incorrect; for the supposed tone (*f*) has no relationship to the *C* chord, and unless the intermediate tones were produced by means of *portamento* no fault could occur. It is a common progression to be met with in almost every composition—even in the fugues of Bach.

“Hidden Octaves” constitute another theoretical bugbear. One can scarcely conceive of a composition that does not contain hidden octaves, and yet they have been cataloged among the guilty things to be avoided. Here is an example :

Ex. 788.

Observe that *b* in the soprano part ascends a half step to *c*, while the base ascends a normal 4th, from *c* to *c*, thus producing an octave. The other octave (*B* below) exists in the imagination, so we are told, and therefore it is classed with the “hidden,” the “covered,” and the “secret” fifths as something about which a suspicion is attached.

But these progressions are so necessary in modern harmony, and they have been written so persistently by standard composers, that it seems a mere waste of words to discuss the matter.

Of course a distinction should be made between chord movements in free instrumental style and regular harmonic progression in strict style. Such movements as the following are frequently written in piano and organ music:

Ex. 789.

But in a vocal composition this would be unmelodious and contrary to the principles of harmonic succession.

Our illustrations show that any of these interdicted progressions can be used. It is for the composer to decide whether *he desires the peculiar effect which they produce.*

CROSS RELATION.

The quotation from Grieg illustrates this:

Ex. 790.

The upper part proceeds from *e* to *g*, while the middle part moves from *c* to *e-flat*. This is called *cross relation*. It is more noticeable at (a) and (b) in the next example:

Ex. 791.

Neither of these can be recommended, for such anomalies usually leave an unpleasant impression on the mind.

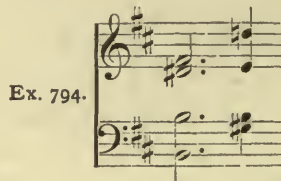
The student must not confuse this with a mere change in mode, where the chromatic alteration occurs in the same voice-part: .

Ex. 792.

Such relations are strictly correct. E. F. Richter has very properly pointed out that the interdiction ought to be removed from all such progressions as these :



Indeed, composers have long since settled this matter. The chorale quoted from Bach (Ex. 757) presents an instance of false relation where the *B*-major chord is succeeded by a dominant 7th of *F*.



But the 7th chord containing *d*-natural is not connected with the *B* major chord, which latter occurs at the end of a musical and poetical phrase.

Numerous examples similar to the following might be quoted :



The semi-phrases here begin upon the second quarter of each measure.

THE AUGMENTED SECOND.

The productive musicians have used this so variously and so effectively that all attempts to suppress it have proved futile. The author finds nothing wrong in the progression of an augmented 2d, either melodically or harmonically, and he can not, therefore, condemn it. Two illustrations will suffice :

Ex. 796.

Mendelssohn. Glinka.

It is simply a natural interval of an important modern scale. The reverse of this has been considered still more "faulty"; yet both progressions are rendered necessary by the nature of the harmonic minor scale. (See chorus of the Shemites in Rubinstein's *Tower of Babel*.)

TRITONE.

Another peculiar prohibition applies to the "tritone," 4 to 7 of the major scale. It is so-called because of the three whole steps included in this interval:

Ex. 797.

The tritone has incurred the displeasure of theoretical writers to such an extent that they have actually objected to this common progression:

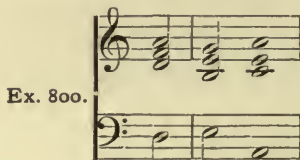
Ex. 798.

In order to be "allowable" the tritone must, we are told, belong to the same chord:

Ex. 799.

But this is no better than the preceding example. The difficulty of singing the augmented 4th led, originally, to its exclusion from polyphonic music. The prohibition was then generally applied to all styles, and even the relation, or the suggestion, of the tritone was interdicted. In truth, the majority of these interdictions belong to

the primitive stages of musical development. But they have been repeated in all seriousness by modern writers, as though we had made no progress since Peri composed his *Euridice*. They ought to have been discarded during the last century, for very few of these prohibitions have any application to modern musical composition. A certain interval, or chord progression, may sound unmelodic or inharmonious, because the situation in which it occurs is not favorable, or because no object appears to make it necessary. This does not justify us in condemning the procedure, for the composer with a definite object in view may produce excellent results with material that seemed useless to the mere speculator. Thus Mr. E. Prout writes an example of these minor triads,



and because they sound strangely in *his* ears he declares them to be "simply detestable!" But Mr. Prout ignores the fact, as do nearly all speculative musicians, that genius is a law unto itself, and that a Saint-Saëns, Dvorák, Grieg, or Tschaikowski may discover in the strangeness of a certain progression the very expression they desire to convey.

Indeed, all these "detestable" harmonizations have been utilized by the greatest composers, and it is merest folly that attempts to proscribe them. It may be well for the arranger to be restricted by abstract formulas, but the composer who has something new to say through the mystic soul-language can not be bound and fettered by arbitrary, didactic theorems that must be violated on every page of original music. While musical effects remain inexhaustible, theory must play a secondary part.

Chapter LXIII.

ANALYSIS OF HARMONIC SEQUENCE.

MELODIC sequence is the repetition of a group or figure upon different degrees of the scale; the consequent succession of similar melodic intervals.

The author applies this term to harmonic progression and transition, wherever a *certain arrangement of chords* is repeated higher or lower.

There must be some characteristic feature to the original progression, which is considered as the *design*. The position, or the kind of chords employed, or the manner in which they follow one another, must be sufficiently characteristic to constitute a model. Here is a simple illustration of harmonic sequence:

Ex. 801.

The model (a) is repeated exactly at (b), a whole step lower. In each measure a dominant chord with the 3d uppermost resolves to its major tonic, and in both instances the base descends from the root to the minor 7th, which latter resolves to the 3d of the major concord. This is strict sequence, as is the following:

Ex. 802.

The design (a), consisting of the peculiar resolution of an essential discord, is repeated in sequence at (b) and at (c).

A free sequence may be described as a repetition in which the same positions, but not the same species, of chords are employed. There is this important difference between the two: Strict sequence is transitional; free sequence is not. The latter is here illustrated:

Ex. 803.

The arrangement of the chords with reference to their positions is the same in every measure; hence they appear identical to the eye. But at (a) the chords are minor, at (b) they are major. There is also a passing 7th on each second beat, but some of these are major, and some minor sevenths. At (c) the last chord is an imperfect triad, though this appears in its first inversion, as do all the others. No transitions here occur, since the natural tones of but one scale are employed. Compare this with Exs. 801 and 802. Another kind of sequence takes place when several chords follow one another in the same position. A familiar example may be quoted from Beethoven's Op. 2, No. 3, where the first eleven chords appear in their second position:

Ex. 804.

The sequence is indicated by the slur.

Two other examples are quoted from the same opus:

Ex. 805.

The first is an irregular sequence. Both are in the free style.

The melodic part of a sequence from Haendel's *F-major* Chaconne is now presented for the student to complete according to the model:

Ex. 806.

Musical score for Ex. 806. The piano part consists of four measures with chords labeled a, b, c, and d. The violin part has a melodic line with eighth notes.

The design to be carried out begins at (a). At (b), (c) and (d) it is to be sequenced, all three parts being similar to those given at (a).

* * *

The Chaconne from which this extract was taken is constructed principally by means of sequence, and would be a useful study in connection with this subject.

The next illustration represents diminished and dominant 7th chords resolving to the note above the root of each discord :

J. Lötv.

Ex. 807.

Musical score for Ex. 807. The piano part consists of four measures with chords. The violin part has a melodic line with eighth notes. The score is marked with a forte 'f' dynamic.

The 4th resolution of the dominant 7th chord in the second measure corresponds to the first resolution of the diminished chord in the other measures. That is, the base in every instance ascends a minor 2d from root to root. This is free sequence.

A charming chromatic sequence is contained in the following excerpt :

Ex. 808.

Chopin. Op. 6, No. 1.

Musical score for Ex. 808. The piano part consists of four measures with chords labeled a, b, c, and d. The violin part has a melodic line with eighth notes.

The harmonic design consists of diminished, changed to corresponding dominant 7th, chords. It is all strict with exception of the last

melodic note. Here the f^\sharp is used in place of f^\natural , because the return of the first theme requires the former. Chopin was partial to these sequence designs, and used them most adroitly. It would therefore be well to transpose the last example, and to seek other illustrations in his works.

Exs. 809 (a) and (b) are to be completed by the student. The first consists in resolving a series of essential discords indirectly. The figures indicate 3d and 4th resolutions.

The design of Ex. 809 (b) should be analyzed, and then continued to a natural cadence on D . No chromatic signs are here necessary.

Ex. 809a.

Ex. 809b.

Transpose, but do not invert, these exercises.



Chapter LXIV.

INFLUENCE OF RHYTHM AND PHRASING UPON
HARMONIC MOVEMENT.

WE enter here into a new field, and one that will require some knowledge of musical analysis. Chord movements that are contrary to all principles of harmonic progression frequently occur in seeming connection with one another. To analyze the design is particularly necessary in such instances. We must know the constructional divisions of the work in order to understand where the harmonic connection ceases.

Periods, sections, and sometimes even phrases, are to be isolated from what follows, and the principles of progression and resolution do not necessarily apply beyond these divisional or subdivisive points.

Antiphonal groups, sequences, echoes have a like effect upon the harmonic connection, as well as upon the phrasing. An illustrative instance is quoted from a descriptive song. Notice particularly the progression from the second to the third measure :

Ex. 810. *Mililotti.*

The musical score consists of two staves, treble and bass clef, in a key with one sharp (F#). The first measure contains a phrase of chords and moving lines. The second measure ends with a discord marked 'b'. The third measure begins with a new phrase marked 'c' and 'pp' (pianissimo).

The first two measures comprise a phrase. At (c) a different sentiment is represented. This is indicated by the composer: "Like a boat-song heard in the distance." There is therefore no connection between the phrase ending at (b) and the one commencing at (c). If there were, the resolution of the essential discord at (b) would certainly be unresolvable, and even incorrect. The next quotation is of similar import :

Ex. 811. Schumann.

The phrases marked *p* and *f* were intended by the composer to be isolated. Everything indicates this fact. Consequently the progression from the *A* to the *G* chord does not come within the rule or meaning of a continuous harmonic movement; they are disunited, both in phrase and sentiment.

The next illustration is taken from a mazourka by Chopin. A part of the prelude and one phrase of the principal theme are given :

Ex. 812. Op. 24, No. 2.

The mazourka begins at (b), after the preliminary motive, with which the piece closes. No rest or pause appears between the two phrases (a) and (b), but the design is so apparent that the composer merely wrote two perpendicular bars to indicate the beginning of the mazourka. Otherwise the progression from the second to the third measures would be unaccountably and inexcusably strange.

A motive or phrase repeated in form of an echo is to be included among these seeming contradictions to the principles of harmonic movement. Such an instance is cited from Beethoven's Op. 27, No. 1 :

Ex. 813.

The short figure at (a) is repeated an octave higher at (b). The groups are not only separated by the slurs, but the tone-quality is considerably changed; for these echoes are given to different kinds of instruments in orchestral music. As Beethoven generally had an eye to the orchestra while composing, the design may be represented in this manner :

Ex. 814.

Wood. *p*

Strings.

All such examples are to be understood in this sense.

As the period is a point of repose we may very properly conclude that chord connection does not extend beyond this point, unless the directions of the composer indicate the contrary.

United periods are usually bound together and treated as one period. A rest, or pause, or the addition of other parts above or below the prevailing harmony, are sufficient to suspend the rules of progression at that particular point. All these circumstances are to be duly considered by the student.

Mention must now be made of an important consideration that enters here, and one that has hitherto been overlooked. It is the license frequently made necessary by the natural tendency of a harmonic sequence :

Ex. 815.

a b c

The model (a) is sequenced at (b) and (c). The progressions are perfectly correct in each measure considered separately. But from one measure to another the chord movements are not so good, as may be seen by changing the order of the sequence :

Ex. 816.

These parallel movements, especially to an inverted base, lack poise, and are unmusical. But according to the original, only the half-

cadence-figure is connected, Ex. 817.

the next

measure being a sequence of this. Consequently the progressions at (a), (b) and (c) are all disconnected.

Sequence thus renders possible progressions of this kind that would otherwise be undesirable, and even incorrect.

A better illustration is quoted from the *finale* to Beethoven's Op. 27, No. 1 :

Ex. 818.

The second semi-phrase, marked *f*, does not succeed the first according to any known principle of chord progression ; for all the parts skip down a considerable distance. And if the sequence had followed in the same octave the result, as a continuous progression, would have been still more irregular :

* The slur is to be understood in its usual sense, as indicating the notes that are to be connected.

† The author includes the slurs merely to show the design. The style is staccato.

Ex. 819.

The musical notation for Example 819 consists of two staves, treble and bass clef, in a key signature of two flats. The treble staff contains a sequence of three chords: a triad of G4, Bb4, and D5; a dyad of G4 and Bb4; and a triad of G4, Bb4, and D5. The bass staff contains a sequence of three chords: a triad of G2, Bb2, and D3; a dyad of G2 and Bb2; and a triad of G2, Bb2, and D3. A downward skip is indicated in the bass line between the first and second chords, and a slur labeled 'a' covers the second and third chords.

Even a less particular composer than Beethoven would avoid such inaccuracies as these, and yet the original arrangement, with the downward skip, would be equally objectionable but for the sequence-like character of the antiphonal groups, which are disconnected from each other. In the performance of such passages every intelligent pianist understands that the different groups are antiphonal, and therefore he not only separates one from the other, but changes the tone-quality also.

There are many forms of harmonic sequence, but as they all possess the same feature in common it will be sufficient to present one more illustration :

Ex. 820.

The musical notation for Example 820 consists of two staves, treble and bass clef, in a key signature of two flats. The treble staff contains a sequence of three chords: a triad of G4, Bb4, and D5; a dyad of G4 and Bb4; and a triad of G4, Bb4, and D5. The bass staff contains a sequence of three chords: a triad of G2, Bb2, and D3; a dyad of G2 and Bb2; and a triad of G2, Bb2, and D3. The positions are labeled 'a', 'b', and 'c' under the first, second, and third chords respectively. A slur labeled 'a' covers the first and second chords, and a slur labeled 'c' covers the second and third chords.

In each measure here the chord passes into its first inversion, and the positions are the same at (a), (b) and (c). This constitutes the sequence. The example likewise embraces the license previously mentioned, and but for the sequence these progressions would be unsatisfactory.



PART XVI.

Chapter LXV.

HARMONY IN FIVE, SIX, SEVEN, EIGHT AND
TEN PARTS

THE simplest method of producing harmony in five parts is to duplicate the base an octave below.

One quotation will suffice:

Ex. 821.

Chopin. Op. 11.

This requires no farther explanation than that of the first sentence.

The next design is very simple:

Ex. 822.

Schumann.

The two upper parts are duplicated below, with the addition of *a* in the middle.

Another method is represented in the following:

Ex. 823.

The musical notation for Example 823 consists of two staves. The upper staff is in treble clef and contains four measures of chords. The lower staff is in bass clef and contains a melodic line with eighth notes and a final chord. The key signature has two sharps (F# and C#).

The main object of the baritone part is to fill in the void between base and treble parts. In piano music this is a comparatively unimportant office, but in orchestral scores these vacuums usually sound bare and unsatisfactory. This form is more compact than where the added part is a mere duplication of the base. The parallel octaves that may result between the baritone and lower treble parts are not objectionable, but the general principles of harmonic progression should be observed. The best tones for duplication are roots and fifths. Designs similar to the last require the most care in their management, because the parts are independent of each other.

SIX AND SEVEN PARTS.

By writing four treble parts and adding an octave base, six-part harmony is produced. A comparatively new feature enters here:

Ex. 824.

The musical notation for Example 824 consists of two staves. The upper staff is in treble clef and contains four parts of chords. The lower staff is in bass clef and contains a melodic line with eighth notes and a final chord. A dynamic marking 'f' is present at the beginning of the bass staff. The key signature has two sharps (F# and C#).

Octaves between the extreme treble parts are unobjectionable, because the lowest treble part merely reinforces the melody. The unisons in the base have been explained.

The base should move contrarily as much as possible, though when there is a connecting note above, the base may move in similar direction with the treble parts to prevent the former from descending too low. See second measure of Ex. 824. When there is no connecting link, contrary movement is especially necessary.

The following quotation from Schumann is in this style:

Ex. 825.

Musical notation for Example 825, showing a piano accompaniment with a treble and bass staff. The treble staff contains chords labeled *f*, *a*, *b*, *c*, *d*, *e*. The bass staff contains a melodic line with a triplet *d* and a *3* below it.

In order to give the bases a melodic progression contrary to the upper parts the composer doubles the minor 3d in three parts at (a), and the 5th in four parts at (b), which is rather weak. But at (c) these inversions and duplications are justified. At (e) the composer leaves to implication the root of the *A*-major chord in order to avoid the open fifths:

Ex. 826.

Musical notation for Example 826, showing a single treble staff with a chord labeled *8va* above it.

The perfect cadence-form here enables us to readily seize upon the object in view. Otherwise the *a* could easily have been supplied by including it in the previous chord:

Ex. 827.

Musical notation for Example 827, showing a piano accompaniment with a treble and bass staff. The treble staff contains chords labeled *d*, *e*. The bass staff contains a melodic line with a triplet *d* and a *3* below it.

Another simple design consists of two chord-groups of three parts each. The following form has been much used:

Ex. 828.

Musical notation for Example 828, showing a piano accompaniment with a treble and bass staff. The treble staff contains a sequence of chords. The bass staff contains a sequence of chords with connecting notes.

On account of the connecting note in each chord-group this is per-

fectly simple in its construction. Observe that the 3d and 7th of the discord are not duplicated; and that when the 3d or 5th of the concord is doubled, the duplicated parts move contrarily. Ex. 828 should be re-arranged.

By duplicating the melody, or the base, seven-part harmony is obtained :

Ex. 829.

Observe the contrary and oblique movements. At (b) the dominant pedal-note is preferable to a duplication of the real-base. These six and seven-part designs frequently result in parallel octaves, and sometimes in fifths. Observe this quotation from Beethoven :

Ex. 830.

Op. 14, No. 1.

The lower group is a duplicate of the upper. Parallel octaves therefore result. This duplication is a peculiar feature of the entire movement, and it needs no approving sign from the theorist.

In the allegro to Op. 31, No. 2, Beethoven wrote a still more irregular progression, the result of doubling a tone-group :

Ex. 831.

Had the composer submitted this to his old teacher, Albrechtsberger, it would have been unhesitatingly expunged. But as we listen to the effect we hear a simple design duplicated in the octave. This is of frequent occurrence in modern music.*

EIGHT, NINE, AND MORE, PARTS.

Since the enlargement of the piano key-board the tendency has been toward heavy masses of chords and extended harmonies.

A moderate example is quoted from Bendel :

Ex. 832.

Grandioso.

As the octave base is continued in vibration by means of the damper pedal the harmony may be said to contain ten parts.

Here may be mentioned the first of the solo part in Liszt's *E-flat* concerto, with its ponderous chord-effects, written in open defiance of all the thorough-base formulas.

Eight and ten simultaneous parts frequently occur in organ scores, for two of these can be given by the pedals. Herewith is a specimen from Lemmen's Christmas Offertory :

Ex. 833.

Ped.

* A similar instance occurs in the little Romance that usually follows the *Träumerei* by Schumann.

In such a mass of harmony, and in the midst of so much noise, it is not possible to maintain much clearness or purity of style.

According to the principles herein set forth almost any number of harmonic parts are feasible. Certain chord progressions that admit of free inversion may be duplicated to the utmost limit:

Ex. 834.

The musical score for Ex. 834 consists of four staves. The top staff, labeled 'd', and the bottom staff, labeled 'a', show a sequence of chords and arpeggiated figures. The middle two staves, labeled 'c' and 'b', are identical to the top and bottom staves respectively, as indicated by brackets and arrows. The music is written in a key with one flat (B-flat) and features complex harmonic textures with many notes per measure.

Designs similar to this appear in almost every orchestral score, and it could also be utilized in an arrangement for two pianos, or piano and organ. (c) and (d) are mere duplicates of (a) and (b).



Chapter LXVI.

ABRUPT, ENHARMONIC, AND REMOTE
TRANSITION.

KEY AND CHORD RELATIONS.

COMPOSERS have furnished an abundance of examples with which to illustrate these subjects.

In addition to the means of modulation previously explained, various methods have been employed, and these will be examined.

The present object is to go beyond the boundaries of the closely related keys. We now recognize a connection between various tonalities that were during the time of Mozart, and even since then, considered remote.

At first a given tone is selected as a means of connecting two apparently unrelated keys. If, for example, a cadence takes place upon *D* we may, by retaining that tone, pass directly to any of the following keys:

Ex. 835.

At (a) the same tonic remains, and the dominating chord is identical in both modes. At (b) the new tonic is situated a major 3d below the old. Three tones of the *B-flat* scale occur in that of *D*; four are foreign. The *D* and *B-flat* are what Hauptmann called "parallel keys," and their relationship is sufficiently established. At (c) we pass to *G-minor*. The relation is that of dominant and tonic.

In the three illustrations under notice the new tonics are introduced without the aid of an intermediate transition chord. By including the signature of the new key in each instance the author intended to imply that in the second illustration, for instance, we

may consider the key as that of *B-flat*, and proceed accordingly. So with the other illustrations (a) and (c). In this sense they may be classed with abrupt transitions.

A more musical illustration of the transition to a major 3d below is here quoted :

Ex. 836.

C. Chaminade.

After the transition in the fourth measure the key of *E* is established. During the last two measures the original tonality is restored and the initial period in *A-flat* follows.

Another parallel relationship exists between any major tonic and the key situated a large 3d above.*

Beethoven established this in actual practice, and with the most artistic results. Witness the following: Sonata in *G*, Op. 31, No. 1, second theme in *B*; Sonata in *C*, Op. 53, second theme in *E*; Op. 2, No. 3, the adagio is located a major 3d above the main key, and the first and fifth piano concertos have the same peculiarity. (The passage to the major 3d below in a minor key was used by Scarlatti and Mozart before Beethoven was born. But this is a diatonic connection and produces a different effect.)

These two parallel keys correspond to one another; for in passing to the major 3d above we would, in returning, find the major 3d below to be the original key-tone. This is illustrated here :

*Hauptmann and Riemann have remarked upon this relation, but without deducing any principle of particular service.

Ex. 837.

The musical score for Ex. 837 consists of two systems of three staves each. The first system shows a melodic line in the upper staff and a piano accompaniment in the lower two staves. The key signature is A-flat major. A key change to C-major is indicated by a circled 'a' above the piano part. The piano part features a series of chords, with a dynamic marking 'p'. The second system continues the melodic and piano parts. A key change to A-flat major is indicated by a circled 'c' above the piano part, with a dynamic marking 'pp'. The piano part continues with chords, and a circled 'b' is placed above the piano part in the second measure of the second system.

The quotation begins at the end of a period in *A-flat*, but when the transformation is made to *C-major* at (a) the key is treated as such. At (c) the transition is to a major 3d below, and here the original tonality is restored. So much for the theoretical process. From an esthetical standpoint the design is suggestive. During the first change of key the words are "I see thy form in mist and cloud that over my pathway rise." Then for the remainder in the original key, "Thou still art near, in darkest night the stars speak of thy bright eyes." The changes in tonal foundation from higher to lower planes are very adroitly managed, and the chief effects are owing to these causes.

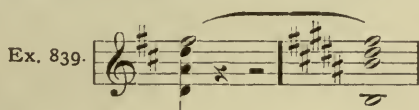
And thus it is that while merely the mechanical means at a composer's command are usually shown, there yet remains the more interesting consideration of *motive*. With this great problem the young composer must sooner or later concern himself, and the author has, therefore, frequently directed attention to these unwritten laws.

The direct passage to the key a major 3d above would appear like this:

Ex. 838.

The musical score for Ex. 838 is a single system with a treble clef. It shows a direct passage from one key to another a major 3rd above. The first measure shows a chord in the key of A-flat major (F major with two flats). The second measure shows a chord in the key of C major (no sharps or flats). The third measure shows a chord in the key of E-flat major (three flats). The fourth measure shows a chord in the key of G major (one sharp). The fifth measure shows a chord in the key of B major (two sharps). The sixth measure shows a chord in the key of D major (two sharps). The seventh measure shows a chord in the key of F major (no sharps or flats). The eighth measure shows a chord in the key of A major (no sharps or flats). The ninth measure shows a chord in the key of C major (no sharps or flats). The tenth measure shows a chord in the key of E major (one sharp). The eleventh measure shows a chord in the key of G major (one sharp). The twelfth measure shows a chord in the key of B major (two sharps). The thirteenth measure shows a chord in the key of D major (two sharps). The fourteenth measure shows a chord in the key of F major (no sharps or flats). The fifteenth measure shows a chord in the key of A major (no sharps or flats). The sixteenth measure shows a chord in the key of C major (no sharps or flats). The seventeenth measure shows a chord in the key of E major (one sharp). The eighteenth measure shows a chord in the key of G major (one sharp). The nineteenth measure shows a chord in the key of B major (two sharps). The twentieth measure shows a chord in the key of D major (two sharps). The twenty-first measure shows a chord in the key of F major (no sharps or flats). The twenty-second measure shows a chord in the key of A major (no sharps or flats). The twenty-third measure shows a chord in the key of C major (no sharps or flats). The twenty-fourth measure shows a chord in the key of E major (one sharp). The twenty-fifth measure shows a chord in the key of G major (one sharp). The twenty-sixth measure shows a chord in the key of B major (two sharps). The twenty-seventh measure shows a chord in the key of D major (two sharps). The twenty-eighth measure shows a chord in the key of F major (no sharps or flats). The twenty-ninth measure shows a chord in the key of A major (no sharps or flats). The thirtieth measure shows a chord in the key of C major (no sharps or flats). The thirty-first measure shows a chord in the key of E major (one sharp). The thirty-second measure shows a chord in the key of G major (one sharp). The thirty-third measure shows a chord in the key of B major (two sharps). The thirty-fourth measure shows a chord in the key of D major (two sharps). The thirty-fifth measure shows a chord in the key of F major (no sharps or flats). The thirty-sixth measure shows a chord in the key of A major (no sharps or flats). The thirty-seventh measure shows a chord in the key of C major (no sharps or flats). The thirty-eighth measure shows a chord in the key of E major (one sharp). The thirty-ninth measure shows a chord in the key of G major (one sharp). The fortieth measure shows a chord in the key of B major (two sharps). The forty-first measure shows a chord in the key of D major (two sharps). The forty-second measure shows a chord in the key of F major (no sharps or flats). The forty-third measure shows a chord in the key of A major (no sharps or flats). The forty-fourth measure shows a chord in the key of C major (no sharps or flats). The forty-fifth measure shows a chord in the key of E major (one sharp). The forty-sixth measure shows a chord in the key of G major (one sharp). The forty-seventh measure shows a chord in the key of B major (two sharps). The forty-eighth measure shows a chord in the key of D major (two sharps). The forty-ninth measure shows a chord in the key of F major (no sharps or flats). The fiftieth measure shows a chord in the key of A major (no sharps or flats). The fifty-first measure shows a chord in the key of C major (no sharps or flats). The fifty-second measure shows a chord in the key of E major (one sharp). The fifty-third measure shows a chord in the key of G major (one sharp). The fifty-fourth measure shows a chord in the key of B major (two sharps). The fifty-fifth measure shows a chord in the key of D major (two sharps). The fifty-sixth measure shows a chord in the key of F major (no sharps or flats). The fifty-seventh measure shows a chord in the key of A major (no sharps or flats). The fifty-eighth measure shows a chord in the key of C major (no sharps or flats). The fifty-ninth measure shows a chord in the key of E major (one sharp). The sixtieth measure shows a chord in the key of G major (one sharp). The sixty-first measure shows a chord in the key of B major (two sharps). The sixty-second measure shows a chord in the key of D major (two sharps). The sixty-third measure shows a chord in the key of F major (no sharps or flats). The sixty-fourth measure shows a chord in the key of A major (no sharps or flats). The sixty-fifth measure shows a chord in the key of C major (no sharps or flats). The sixty-sixth measure shows a chord in the key of E major (one sharp). The sixty-seventh measure shows a chord in the key of G major (one sharp). The sixty-eighth measure shows a chord in the key of B major (two sharps). The sixty-ninth measure shows a chord in the key of D major (two sharps). The seventieth measure shows a chord in the key of F major (no sharps or flats). The seventy-first measure shows a chord in the key of A major (no sharps or flats). The seventy-second measure shows a chord in the key of C major (no sharps or flats). The seventy-third measure shows a chord in the key of E major (one sharp). The seventy-fourth measure shows a chord in the key of G major (one sharp). The seventy-fifth measure shows a chord in the key of B major (two sharps). The seventy-sixth measure shows a chord in the key of D major (two sharps). The seventy-seventh measure shows a chord in the key of F major (no sharps or flats). The seventy-eighth measure shows a chord in the key of A major (no sharps or flats). The seventy-ninth measure shows a chord in the key of C major (no sharps or flats). The eightieth measure shows a chord in the key of E major (one sharp). The eighty-first measure shows a chord in the key of G major (one sharp). The eighty-second measure shows a chord in the key of B major (two sharps). The eighty-third measure shows a chord in the key of D major (two sharps). The eighty-fourth measure shows a chord in the key of F major (no sharps or flats). The eighty-fifth measure shows a chord in the key of A major (no sharps or flats). The eighty-sixth measure shows a chord in the key of C major (no sharps or flats). The eighty-seventh measure shows a chord in the key of E major (one sharp). The eighty-eighth measure shows a chord in the key of G major (one sharp). The eighty-ninth measure shows a chord in the key of B major (two sharps). The ninetieth measure shows a chord in the key of D major (two sharps). The hundredth measure shows a chord in the key of F major (no sharps or flats). The hundred-first measure shows a chord in the key of A major (no sharps or flats). The hundred-second measure shows a chord in the key of C major (no sharps or flats). The hundred-third measure shows a chord in the key of E major (one sharp). The hundred-fourth measure shows a chord in the key of G major (one sharp). The hundred-fifth measure shows a chord in the key of B major (two sharps). The hundred-sixth measure shows a chord in the key of D major (two sharps). The hundred-seventh measure shows a chord in the key of F major (no sharps or flats). The hundred-eighth measure shows a chord in the key of A major (no sharps or flats). The hundred-ninth measure shows a chord in the key of C major (no sharps or flats). The hundred-tieth measure shows a chord in the key of E major (one sharp). The hundred-first measure shows a chord in the key of G major (one sharp). The hundred-second measure shows a chord in the key of B major (two sharps). The hundred-third measure shows a chord in the key of D major (two sharps). The hundred-fourth measure shows a chord in the key of F major (no sharps or flats). The hundred-fifth measure shows a chord in the key of A major (no sharps or flats). The hundred-sixth measure shows a chord in the key of C major (no sharps or flats). The hundred-seventh measure shows a chord in the key of E major (one sharp). The hundred-eighth measure shows a chord in the key of G major (one sharp). The hundred-ninth measure shows a chord in the key of B major (two sharps). The hundred-tieth measure shows a chord in the key of D major (two sharps).

No further preparation is necessary. Another parallel key, somewhat remote, may be connected a minor 3d below



Beethoven, in his Op. 7, made this change from the *allegro* to the *largo*.

The following harmonic changes are effected with the 5th as a connecting link :

Ex. 840.

The transformation at (a) bears the same relationship above the original key-tone that *D* to *B* does below; *i. e.*, a minor 3d. One is connected through the 3d, the other through the 5th. These may be made to alternate like the example from Lassen. At (b) the change is to dominant minor; an unusual mutation, but not an unnatural one. Moszkowski includes it among the group of related keys in Spanish Dances, Op. 12.

The following has been given as a "3d relation":

Ex. 841.

But this progression is not good, unless the parallel major of *D# minor* intervenes.

The most important of the secondary, or transitional, relations have been indicated. These are all that can be directly connected through the tones of an original major chord.

The keys located a minor or a major 2d above or below any tonic have no natural connection, and in actual composition they have generally been ignored. A *transition* to any of these four keys may be effected, but we can not pass to them directly with any hope of connection or relationship. Neither is the key located an augmented

4th above to be considered as related, though some writers so regard it. Even if the mode be made minor it seems strangely incongruous. Some preparation is necessary; in which case we may pass to *A-flat-major* as naturally as to *G# minor* :

Ex. 842.

This might serve a purpose; but if we present the two tonics consecutively there is not the slightest connection :

Ex. 843.

Such progressions are esthetically impossible, unless *G# minor* be associated with its parallel major, *B*.

A summary of the keys related to a given major tonic, both natural and transitional, is here represented :

NATURAL CONNECTIONS (DIATONIC.)

Ex. 844.

TRANSITIONAL CONNECTIONS (CHROMATIC.)

These should be written in *A*, *B-flat* and *E-flat*, with a separate staff for the base, which is to be fundamental. * * *

The main conclusions to be drawn from the preceding apply more particularly to the different movements of a connected work, and to

the important divisions of each movement. Chord relations and key-relations are, therefore, intimately associated with Form, especially that part which relates to the main outlines and their tonalities. (This is set forth in Chapters LXVIII and LXX.)

ENHARMONIC TRANSITION.

In the so-called "Emperor Concerto" Beethoven introduced the slow movement in the parallel key a major 3d below. As this would require for its signature seven flats, the composer substituted five sharps, with the same result, practically :

Ex. 845.

The enharmonic representation at (b) is simpler, and therefore preferable.

The greatest enharmonic possibilities are contained in the diminished 7th chord. These have been explained.

When the *appearance* of a diminished 7th chord is altered for the purpose of establishing a certain tonality the notation becomes a matter of necessity, not of convenience and simplicity. But in the next example we may use nine flats, or three sharps :

Ex. 846.

If the harmony of the second measure appeared transiently, and returned immediately to *G-flat-major*, this notation would be proper. But should an entire period follow in this new scale it would be better to use the enharmonic equivalent :

Ex. 847.

Compare (a) with (b). Also, see No. 1 of Grieg's *Waltzer Capricen*, Op. 37.

Another means of arriving at any key, however remote, is furnished by the chromatic scale. A number of these half steps in succession have a tendency to disturb the tonality, or at least to leave us in doubt as to the actual key-tone. (In a previous chapter this was more plainly set forth.)

The chromatic passage may lead to the tonic, or to any part of the new scale. An instance is found in the rondo to Chopin's *E-minor Concerto*, in which the unusual change from *E* to *E-flat* is accomplished in the manner described :

Ex. 848.

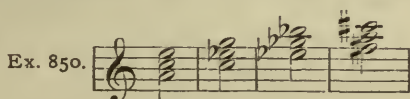
At (a) the tonality of *E* is not disturbed; but when the diatonic is succeeded by the chromatic scale at (b) we are prepared for any new key the fancy of the composer may suggest. The rhythm, and the natural tendency of the cadenza toward *b-flat*, aid us somewhat in anticipating the actual result at (c). After a short period of this principal rondo theme in *E-flat* the composer lowers the major 3d and returns almost imperceptibly to the original key-tone. The effects are as charming as the means are simple.

REMOTE TRANSITIONS.

These take place when no preparatory chords are used to introduce the new key. Such an instance is the following from Beethoven's Op. 27, No. 2 :

From *G# minor* to *A-major* is not a very remote modulation, but the unexpected manner in which it appears strikes one with almost tragic force.

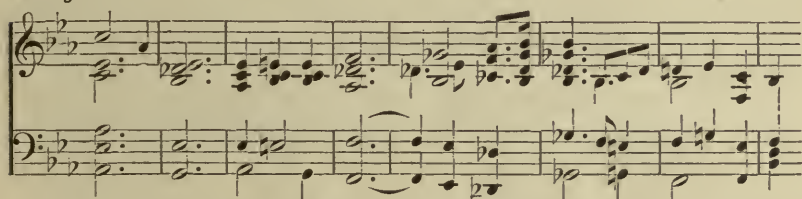
The quotation previously made from Grieg's Op. 35 may be included under this heading. The scheme in a condensed form appears like this:



These represent four tonalities. They are all parallel keys, related through the minor 3d.

The King's first solo in *Lohengrin*, and the *ensemble* that follows, present some excellent illustrations of this subject. A few are quoted:

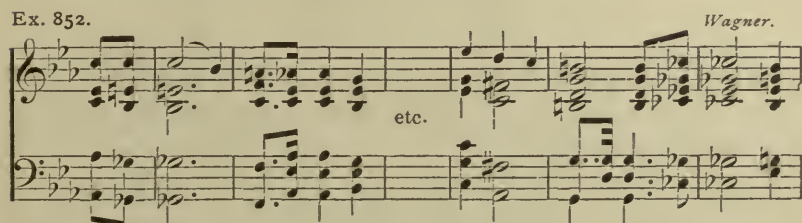
Ex. 851.



By means of the 4th resolution of a dominant 7th the music passes to *D-flat*, thence to *G-flat*, and back to the key-tone through the dominant.

The next are similar:

Ex. 852.



Observe the enharmonic change in the last measure but one.

For the remainder, students who are ambitious must examine the works of high-class modern composers, where abundant illustrations may be discovered.

Chapter LXVII.

ALTERED CHORDS. DOUBLE AND TRIPLE
DISSONANCES.

ALTERED CHORDS.

A PRELIMINARY knowledge of these subjects has been acquired in former lessons. But there are two different results to be obtained from altering chords, and these must be considered separately.

The various augmented 6th chords may be mentioned here as transition harmonies; they are all altered chords, and not treated as fundamental harmonies. But the majority of altered chords are the result of a passing note. Both objects will appear in the following examples.

A 7th chord V is selected. If the root be sharpened the result will be a discord equivalent to III; but as it leads in a different direction it may be included here :

Ex. 853.

(2)

This is a passing harmony with a slight transitional tendency toward the dominant. There would be no object in augmenting the major 3d; but it may be lowered :

Ex. 854.

This can be re-arranged with the same general result.

The 5th may also be lowered in connection with the 3d :

Ex. 855.

These are mere passing notes and do not affect the tonality.

Now raise the 5th and resolve the discord in any of the following ways :

Ex. 856.

Here again the chromatic alteration is a passing note. The base assumes the character of a pedal-note in these instances.

The corresponding discord upon the fourth of the scale is susceptible to the same alterations. Both are harsh and require some preparation.

The discord on the second of the scale is next in order. By raising the root there will appear a transition chord with which we are familiar in an inverted form. But it is sometimes used in its original position :

Ex. 857.

(See overture to *Oberon* ; also the *Allegro Vivacissimo* in Mendelssohn's Scotch Symphony.) The effect is transitional, like that of the augmented 6th chord, No. 1.

In the next example the root is lowered as a passing note :

Ex. 858.

This presents an unusual combination : major 3d, augmented 5th, and major 7th.

By lowering the 5th we produce a discord identical in appearance to No. III, founded on the leading note to *A-flat*, but very different in its natural progression :

Ex. 859.

At (a) the *d-flat* is a mere passing note between 6 and 5 of the major scale; - at (b) the tonality of *A-flat* is supposed to have been established. If we desired to pass into *F-minor* the altered interval, as minor 6th, would serve a different purpose in preparing the ear for a change of mode :

Ex. 860.

At (a) the *d-flat* does not appear as a passing note. At (b) the key of *F-minor* is sufficiently established.

The 7th chord III presents some features for alteration. Lower the 3d first :

Ex. 861.

This is a passing harmony.

The 3d and 7th may be lowered, and treated as in the following example :

Ex. 862.

The succession of normal fourths is not very euphonious, but with the 3d or 5th uppermost the examples might be utilized.

The dominant 7th chord is susceptible to considerable alteration. The 5th is frequently augmented, and in this form it has the strength and decision that characterizes all augmented 6th combinations. (See Exs. 510 and 511.)

The 5th might be lowered as a passing note, thus :

Ex. 863.

But this does not seem to be of much utility.

The flattened 3d offers greater advantages, especially if the object is a transitional one :

Ex. 864.

The *e-flat* leads naturally to *d*, and is characteristic of *G-minor*.

The 7th is sometimes raised as a passing note without destroying the effect of the essential harmony :

Ex. 865.

The *b♯* is a melodic passing note and might be included with *b-flat* as harmonic note below.

In the following melodic sequence all the altered chords are passing harmonies :

Ex. 866.

The augmented triad at (d) corresponds, in the harmonic sequence, to the passing diminished chords at (a), (b) and (c). None of the chromatics are to be considered as transitional.

The following example illustrates more plainly the difference between a passing chord and a transition chord:

Ex. 867.

At (a) the $f\#$ is a passing note and does not affect the key of *B-flat*. At (b) the $f\#$ forms part of the essential harmony on *D*, and this modulates decidedly to *G-minor*.

DOUBLE DISSONANCES.

With exception of the principal 9th chords, nearly all double dissonances are a product of suspension, or of the harmonic appoggia-tura. The double dissonance, as its name implies, is a combination embracing two dissonating intervals, generally requiring separate resolution.

Suppose this to be a model:

Ex. 868.

Suppose, farthermore, that the root of the first chord be suspended after the discord is introduced:

Ex. 869.

The notation shows a four-measure progression. The treble clef contains chords with notes *a*, *b*, *c*, and *d*. The bass clef contains notes *a*, *b*, *c*, and *d*. A plus sign is placed below the *c* label in the treble staff.

At (b) we hear a double dissonance of suspension—*d* and *c*, and *g* and *f*. Observe that each dissonance is resolved to a consonance, as though they had appeared in this form :

Ex. 870.

The notation shows a three-measure progression. The treble clef contains notes *b*, *c*, and *d*. The bass clef contains notes *b*, *c*, and *d*.

The upper discord at (b) resolves to a consonant interval at (c); the lower discord at (c) is resolved at (d). The preparation may be seen at (a), Ex. 869.

The 3d of the concord may be suspended with the same general results :

Ex. 871.

The notation shows a four-measure progression. The treble clef contains chords with notes *a*, *b*, *c*, and *d*. The bass clef contains notes *a*, *b*, *c*, and *d*.

This is slightly more dissonant than Ex. 869, but should be analyzed in the same manner.

While it is true that a 2d or a 7th may resolve up as at (a) in the next example (because the *e* is necessary to complete the *C* chord), the usual tendency of the suspension is to descend, as at (b) :

Ex. 872.

The notation shows a four-measure progression. The treble clef contains notes *a* and *b*. The bass clef contains notes *a* and *b*.

In the latter instance *c* descends, because *b* is wanting in the dominant 7th chord. This is also its natural resolution here.

In the next example *e* descends to *d*, because *d* is the tone anticipated, having been delayed by the prolongation of *e* :



And since the upper parts contain the root, 3d and 7th of the essential discord, this resolution to the 5th becomes all the more imperative.

These double dissonances are very useful, and may be introduced into the strictest styles of composition, for they freely admit of re-arrangement and inversion.

Principal 9th chords are an exception to this theory. They frequently resolve direct to a concord, thus, from Schumann :



The root and 7th, and the 3d and 9th, form dissonating intervals; or they may be considered in this way :



In Ex. 874 the dissonances are so far removed from the fundamental that they do not sound harsh; and the fact is to be considered that this is a principal discord.

In the following extract an altered 9th chord is treated as a principal discord :

MacDowell. Op. 22.

Ex. 876.

pp

This contains a major 3d, augmented 5th, minor 7th and minor 9th, an unusual combination. All the upper parts ascend and descend chromatically while the base moves fundamentally.

The secondary 9th chords, though a product of preparation rather than of suspension, are to be treated as double dissonances and resolved to some single discord:

Ex. 877.

One dissonance disappears at (b) 9-8; the other disappears at (c).

The following secondary discords are conducted according to the same principles:

Ex. 878.

g resolves to f, 7 to 6, and so on. (See a to b, b to c, c to d, and d to e.)

TRIPLE DISSONANCES.

Some combinations require more than two resolutions, though these are of rare occurrence. Such an instance is this:

Ex. 879.

There are four discords here, but the *f-sharp* in the first measure may be considered a passing note. The combination at (a) is theoretically a triple dissonance, since everything points toward the dominant 7th harmony, and the *c*, as well as the *e*, is dissonant to that chord. At

(b) we hear a double dissonance. This is resolved partially at (c) and completely at (d). Perhaps the design would be more readily grasped if arranged in this manner:

Ex. 88o α .

The first discord might have been resolved directly to the essential 7th, but the partial resolution at (b) is more progressive and generally more musical.

In relation to the derivation or preparation of these extremely dissonant combinations, the harshness is more consistent when they are approached by means of small steps.* Compare this

Ex. 88o β .

with Ex. 88o (a), and it will be found less agreeable.

Transpose, but do not invert, Ex. 879. * * *

A triple dissonance containing the interval of an 11th is frequently employed. This has been called the "chord of the 11th"; but it is a product of suspension, and not to be considered as a fundamental harmony. The usual method is to retain the 5th and 7th, and resolve the 9th and 11th down a second each. An illustration is quoted from Ph. Scharwenka's Polish Dances:

Ex. 881. Op. 38, No. 2.

* Dissonance may be produced: 1, by adding to a concord; 2, by suspension; 3, by chromatic alteration of a concord; 4, by anticipation; 5, by including an appoggiatura.

The 11th chord, so-called, is prepared by the secondary 7th chord at (a). This is merely repeated upon the dominant, and after the figure above has completed its course the triple dissonance resolves directly to the essential discord. The simplest explanation of the combination at (b) is to consider the base a pedal-note upon which the secondary harmony is supported until it is merged into the dominant 7th chord at (c).

An 11th chord with major 9th is here quoted from Mascagni :

Ex. 882.

Prelude. *"Cavalleria Rusticana."*

This results from suspension. The dominant is added to the base in the second measure. Observe the interval of a 10th between the answering voices; also the alternate interval of a 5th between the first and second, third and fourth, and fourth and fifth voice-parts.

In the stretto to one of his waltz-caprices Grieg employs this combination in a different manner :

Ex. 883.

Op. 37, No. 2.

This is prepared by and resolved to the tonic harmony. With exception of the base *B*, the upper harmony has somewhat the effect of an after-cadence. This is counteracted and made more decided by the dominant below. The dual character of this combination produces a peculiar effect here.

THE DIAPASON.

There is a still more dissonant and extended harmonic mass, consisting of every tone in the scale. We may term this a Diapason, though it is known theoretically as the "chord of the 13th." It results from suspension, and rests upon the tonic. In major this combination would be prepared and resolved in some such manner as this:

Ex. 884.

At (b) the major 9th is added to the dominant 7th harmony on the tonic pedal. At (c) the base parts are resolved first to the full tonic chord, while the upper harmony is suspended and resolved afterward at (d). The diapason at (c) includes every note in the *D*-major scale. This is an elaboration of the dominant 7th chord suspended over that of the tonic. The complete representation, as here given, is of rare occurrence in the major scale. In the next example this mass appears with the 3d of the tonic omitted:

Gavotte from "Otto Visconti." Gleason.

Ex. 885.

The Diapason at (c) resembles an eleventh chord on the dominant; but as the pedal-note is tonic we recognize the upper combinations as dissonances resolving to a concord of which the root and 5th are foundation notes.

A remarkable instance in minor is here quoted from Beethoven's last symphony:

Presto.

Ex. 886.

The musical score consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The time signature is 3/4. The key signature has one flat (B-flat). The first measure shows a kettle drum part with 'x' marks and a piano part with a complex chord marked 'ff'. The second measure shows the resolution of this chord. The bottom two staves show a baritone solo line with notes and slurs.

This serves to introduce the baritone solo. The only preparation consists of the dominant in the kettle-drum part, and the fact that the key was previously decided as that of *A-major*.

The combination is enumerated from the tonic, *D*, thus: 1, 3, 5, 7, 9, 11, 13. It is the diminished 7th harmony suspended over that of the tonic. One peculiar feature is the inverted base. But this almost immediately moves to other notes of the chord, whereas the root above remains stationary. That this is treated as a suspension (though there is very little preparation) appears more plainly in the second measure, where the dissonances are resolved to the tonic harmony.

This harmonic mass is really a quintuple dissonance.



PART XVII.

Chapter LXVIII.

MUSICAL FORM AND CONSTRUCTION.

DIAGRAMS OF ELEMENTARY MODELS.

THESE subjects, with their various divisions and subdivisions, would require a volume for their adequate explanation. This system, however, would not be complete without a synopsis of form and analysis such as the author has found to be of the greatest benefit to the average student.

Supposing the subject-matter of the preceding pages to have been mastered, the next question is, How can this material be utilized? Form and Analysis furnish the answer: The first embraces outline; the second includes all the details of composition. Form is the *shape and structure* of anything, as distinguished from the *material* of which it is composed. All the previously acquired information is to be considered as the material from which music is constructed.

MOTIVE AND SEMI-PHRASE.

The musical motive is to be considered as a subject, or text, and the composition should be an outgrowth of this. Short motives include but one measure, and as these are the smallest analytical divisions the author terms them Semi-phrases. Such are the following:

Ex. 887.

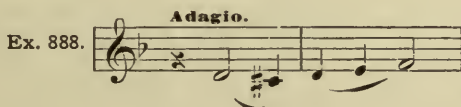
Haendel. Mozart. Schubert. Chopin.

The image shows a single staff of music with four distinct motives. The first motive, by Haendel, is in C major, 3/4 time, consisting of a quarter note G4, a quarter note A4, a quarter note B4, and a quarter note G4. The second motive, by Mozart, is in C major, 2/4 time, consisting of a quarter note G4, a quarter note A4, and a quarter note B4. The third motive, by Schubert, is in C major, 2/4 time, consisting of a quarter note G4, a quarter note A4, and a quarter note B4. The fourth motive, by Chopin, is in C major, 6/8 time, consisting of a quarter note G4, a quarter note A4, and a quarter note B4.

The small notes in the first extract are included merely to complete the measure. The motive consists of the three repeated notes, supposed to represent *fire! fire! fire!*

PHRASE.

This contains two semi-phrases, as may be seen in the continuation of the requiem motive :



The phrase has three features to be analyzed: *proportion, rhythm,* and *melody.*

The student must be familiar with the analytical divisions (phrase, section, period,* etc.) and the different methods of constructing these. Considerable practice of this kind is necessary, for melodic invention and thematic development are among the first artistic requisites of a composer.

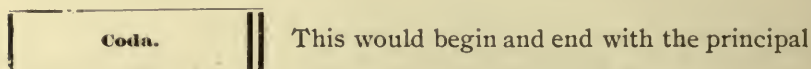
To this end the following course is suggested: Select the first phrase of some natural melody and endeavor to supply the remainder of the period without consulting the original theme. (A volume of popular songs, or the vocal etudes of Concone, would answer this purpose.) Then copy the first phrase of the second period and work this out in the same synthetical manner.

NOTE.—*The various methods of building up sections and periods are fully set forth in the author's Musical Analysis. This work is acknowledged to be complete and explicit in these respects, and as it was intended as a compendium to the harmony treatise, no apology seems necessary for recommending the former, especially since its peculiar field is not occupied by any other text-book.*

The outlines of some of the smaller forms are here represented by means of diagrams :

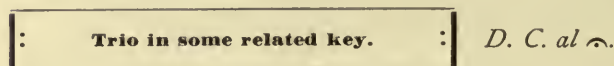
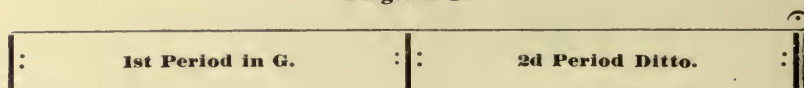
*The definitions of musical phrase, section and period are here retained on account of their general acceptance, and because they seem to the author sufficiently appropriate.

Diagram A.



key, only a transient modulation being necessary.

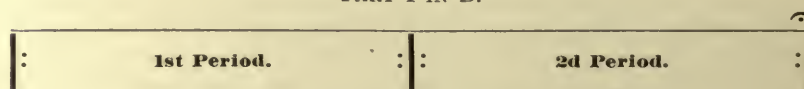
Diagram B.



The tonality here would not change materially during the first two periods, especially since the 2d period, as final ending, must terminate upon the tonic of the principal key. In the trio a different tonality prevails as a contrast to the first two periods. Some melodic and rhythmic variety are also desirable here. The *da capo* is necessary in order that the tonality of *G* may leave its final impress. An important element of form is *proportion*, and this requires that the repetition signs be disregarded after the *D. C.* The last is a dance form.

Diagram C.

PART I IN D.

PART II IN G OR B \flat .

D. C. al

Part II is generally misnamed "trio." See trio in Diagram B.

Many of the common dance species are built on the plan of Diagram C. Temporary modulations may be freely indulged. Among the related keys preference should be given the dominant, and the

relative minors of the dominant and the tonic. The subdominant is usually reserved for the trio or coda on account of its retrogressive tendency. The main conditions to be carried out are that the beginning and ending shall be on the principal key, and that the scale of this key shall be heard more frequently than that of any other. Hence the *D. C.* is necessary whenever the trio or part II are written in a different scale. (Observe the difference between the diagrams marked *D. C.* and those which do not return to the beginning.)

Diagram D.

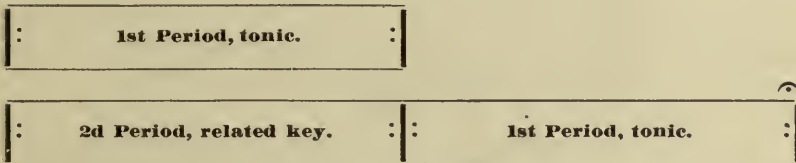
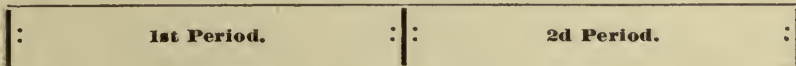


Diagram E.

PART I.



PART II. SAME SIGNATURE.



These are rococo forms, but still useful.

Diagram F.

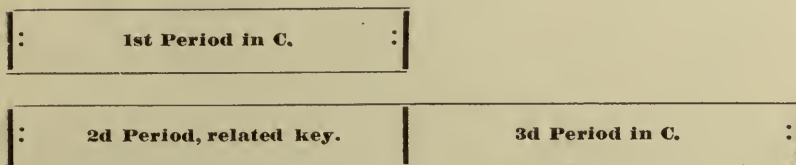


Diagram G.

PART I. C MINOR.



PART II. C MAJOR.

: ♯ ♯ ♯	3d.	: :	4th.	:
---------	-----	-----	------	---

D. C. al ∞.

Diagram F requires a closer affinity between the three succeeding periods. The alternation of minor and major in Diagram G is reversible. In either instance the tonic remains the same. When these diagrams are sufficiently understood, the student should attempt the composing of a few common dances, such as mazourka, waltz or galop. This is a very useful preliminary practice, and even a galop can be made interesting. In Musical Analysis nearly thirty species of the dance form are described, together with their intermediate details. Extended and united periods, intermezzo, coda, etc., are also fully illustrated.

The intermezzo may be used as a relief to a frequently recurring principal theme, or as a means of connecting two dissimilar parts written in different scales. See No. 2 of Mendelssohn's "Songs Without Words." An intermezzo begins at the 29th measure and continues to the 40th, where the main theme recurs. (The last 15 measures comprise the coda.) Another instance occurs in the Spinning Song, No. 34. The song ends at 25, and is resumed on the last of 29—the intervening measures being devoted to an intermezzo founded upon the figure of the introduction. Another intermezzo occurs from 56 to 64. The former is a mere diversion; the latter serves to connect the strain ending in *E* with the one beginning in *C*. The intermezzo is an important feature, though it is seldom employed in the dance form.

In ball-room waltzes and other disconnected works, composers use what are called *eingänge* (entrances) as transitions from one number to another. When the keys are unrelated the *eingang* serves a purpose, especially if the modulatory section be cleverly managed; but it were better to begin abruptly in the new scale than preface it with an unnatural or awkward transition. (See the *eingänge* in Grieg's *Waltzer Capricen*, Op. 37.) The author applies this term to all transitional passages that aim at the establishing of a particular tonality. In this sense it is frequently in form of an episode. After the common dances a few rococo or modern classical species should be written.* The saraband, menuetto, gavotte and musette, tarantella, bolero, avanera and czárdás are interesting species.

* See partitas and suites by Couperin, Scarlatti, Corelli, Paradisi, Rameau, Bach, Haendel, Purcell, and Haessler.

Even if these synthetical effusions prove to be artistically worthless they should be continued until the student has acquired that ready command over the material and technic of composition which every composer must possess. The author does not regret the hundreds of pages of MSS. written at an early period of his musical career, even though they were afterwards purposely destroyed, and though he has for a number of years past discontinued all efforts at composition: It teaches that which no book and no professor can impart.

Chapter LXIX.

MUSICAL FORM AND CONSTRUCTION CONTINUED.

RHYTHM.

RHYTHM is an important element of construction, and yet it must be sufficiently varied to prevent monotony. Two, or even three, periods may be built up from a single rhythmic design, but in the second part a different arrangement will be necessary. Great care must, however, be exercised in the choice of rhythmical devices, for rhythm is the principal element of dance music. It represents action and motion, and nearly all characteristic rhythms are suggestive of mechanical effort or physical exertion. Observe the rhythm and melody in such airs as *He shall feed His flock, I know that my Redeemer liveth*, or the *Tuba Mirum* from Mozart's Requiem:

Ex. 88g.

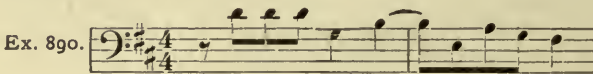
Voice.

Tu - ba mirum spargens so - num.

The trombone motive sounded in advance is especially appropriate to the text; the melody is consonant to the sentiment, and the rhythm and movement correspond to the accent and metre of the

words. This may also be said of the songs from Haendel. These are slow movements, but fast movements might be cited as well. *Rejoice, rejoice*, from "The Messiah"; the second part to Beethoven's *Adelaide*; and *Di quella pira* from "Il Trovatore," are instances in which rhythm and movement are sufficiently animating to express the sentiments of the words, and yet without any suggestion of dancing, marching, or mere physical exertion. Notice also the Slumber Song by Schumann, Op. 124. How chaste and gentle and hopeful the melody; how artistic the harmonization, and how suggestive the agitation of the trio in *G-minor!* There is a certain rhythmic movement that accompanies the song, but this suggests the motion of a cradle, and is, therefore, a necessary feature of the song.

J. S. Bach was a great master of rhythm, and displayed rare judgment in its application; for though he composed considerable music in the dance form, we find in his serious works very little of terpsichorean suggestion. The motive of one of his clavier fugues is quoted as an example:



Intelligent discrimination must be exercised in this matter, for in a nocturne, or any composition of a contemplative nature, it would certainly be incongruous to introduce the bustle and swing of a dance rhythm. Beethoven's object in substituting the scherzo for the minuet was undoubtedly the eliminating of dance elements from pure instrumental music.

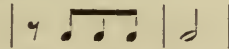
Moszkowski, in his Spanish Dances, Op. 12, has succeeded in reproducing not alone the rhythm but the national characteristics with remarkable cleverness.

The student must understand that national dances in some of the older countries are so characteristic as to form something of a psychological index to the habits and aspirations of the people. Therefore we who have no national dances must judge from a more remote standpoint. We must know their origin and the historic associations connected with these old dances in order to utilize them in artistic composition; for the author can conceive no greater musical vulgarity than the introducing of a common dance-rhythm into a serenade, overture, sonata, or string-quartet. The young composer is therefore admonished to exclude all terpsichorean rhythms from his seri-

ous compositions until he knows their significance and is sure of their appropriate application.

Beethoven introduced in the scherzo of his Pastoral Symphony a rustic dance, and with charming drollery of effect. So in the Italian Symphony, by Mendelssohn; the Country Wedding, by Goldmark; *Im Walde*, by Raff; *Frithjof*, by H. Hofmann; Saint-Saëns' *Danse Macabre*; the ideal dances of Chopin, and such works as Liszt's Hungarian rhapsodies, and the Op. 38 of Ph. Scharwenka.

In the first movement to Beethoven's 5th symphony the rhythm of the fate-motive is imitated almost continually; even during the lyrical second theme it is heard from the bases



Every concert-goer will remember how persistently the



in the allegretto of the 7th symphony is maintained. Another familiar instance is the Erl King, by Schubert, wherein the triplets of the accompaniment are continued throughout.*

In regard to mensural proportion, extended and united periods are important features, especially in works of considerable length. Introduction, eingang, anticipation, intermezzo, passage, development and termination admit considerable irregularity in their rhythmic proportions. Lyric movements must be more equal and symmetrical in their periodic construction.

Here also may be mentioned the numerous avoided and deceptive cadences which have a tendency to prolong the periods and thus prevent the interest from prematurely subsiding.

Uneven rhythmic phrases, irregular periodic construction and continued thesis all have the advantage of relieving an otherwise monotonous movement by the variety of effect which they produce.

Provided the student is endowed with sufficient intuitive capacity, there yet remain the more important secrets of thematic elaboration, choice of means, and significance of effect.

Development and form will be discussed in the following chapter.

* The author's principal definition of rhythm applies to the value and arrangement of notes in a measure. In a more general sense rhythm refers to mensural proportion, and includes accent and movement.

Chapter LXX.

MUSICAL FORM AND CONSTRUCTION CONCLUDED.

The Sonata Form in Major and in Minor: Outline,
Tonality, Development, Affinity of Motives,
Diagrams, etc.

OUTLINE.

THE sonata is a cyclical form consisting of three or four movements. The first of these, usually an allegro, is most important, and will be briefly outlined. This is founded upon a formal plan as to symmetrical proportions, tonal arrangement and logical development. There are three main divisions to the first allegro (sonata movement):

1. From the beginning to the double bar.
2. From the double bar to the end of the "development."
3. From the reprise, or return of the principal theme, to the end of the movement.

The first division is a citation of the leading motives. The second division consists of an elaboration, or discussion, of the principal motives. The third division is similar to the first, excepting in tonality.

The first and third divisions have three subdivisions: "Principal theme," "Second theme," and "Conclusion."

The main theme contains from 16 to 60 measures, depending upon the dimensions of the work. The second subject is about the same in mensural proportion. The conclusion is shortest of the three subjects. The development was originally brief, but it has been enlarged since the advent of Beethoven. In his Op. 2, No. 2, the development contains 103 measures.

TONALITY.

The first theme is principally in tonic major. The second theme and conclusion must, according to the old formula, be in the dominant. The dominant modulation has already been explained harmonically. The author has also pointed out, in another work, that a new tonality presents a different view, on account of its different location above or below the original tonic. The mere difference in signature between the related keys is not what produces the effect of a new tonality. It is to be found in the metaphysical relation of keys and the different views presented by the changing tonalities.

The development may begin in any scale that naturally suggests itself, excepting that of the original tonic. The free use of transition becomes a necessity here in order to present the chief motives in different lights and colors.

The reprise usually recurs in the tonic. The second subject is transposed from dominant to tonic, as is the conclusion, so that the movement may end in the original scale, thus maintaining the supremacy of the principal key.

The location of the second theme can no longer be prescribed. Any of the parallel keys may be selected.

DEVELOPMENT.

This has an important influence upon musical construction in general. The difference between variation and development must first be understood. In the former the melodic outline and harmonic structure usually remain the same. In the latter only a *part of the theme* is selected, and this is led in a different direction from that of the original, being sequenced, modulated, or otherwise metamorphosed.

Variation shows the same picture in different phases; development exhibits only a part of the picture, and then presents other views of a kindred nature. (No reference is here made to those so-called variations in which the theme is repeated identically amidst the idle flurry of arpeggio and scale passages. This is merely *variation of the accompaniment*, not of the melody.)

The first section of a theme upon which Beethoven wrote three sets of variations is quoted:

Ex. 891a.

Op. 14, No. 2.

Andante.

After observing the melody and harmony of these two phrases they should be compared with the following variation, corresponding to this section :

Ex. 891b.

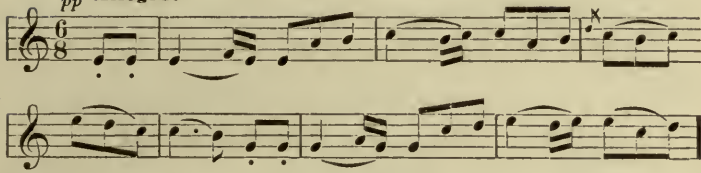
The harmonic substance is identical, but the rhythm and style are varied. Observe that the upper notes, indicated by double stems, represent the original theme.

Variation may thus be used as a means of construction to prevent a repeated passage from sounding monotonous, or to exhibit a recurring theme in different colors. (The reader should here refer to Beethoven's theme and variations in the Sonata, Op. 26; the last half of the adagio in his first *F-minor* Sonata; and to the Sonata in *A*, by Mozart, No. 6; *Edition Litolf*. Schumann's Op. 46 represents a still more artistic unfolding of a musical germ, and belongs to development rather than to variation.)

Examples of development are now presented :

*"Scotch Symphony." Mendelssohn.**pp* **Allegro.**

Ex. 892.




Among numerous transformations of this motive, in the development, notice the following :

Ex. 893.



The natural melodic tendency of the theme is not followed here, but the second measure is a contrary inversion of the first. The rhythm

 is maintained throughout.

The next quotation is more elaborate :

Ex. 894.



Observe the isolated phrases of the highest part in connection with the original theme. Each voice-part in Ex. 894 represents a development of the motive.

Such designs excite the keenest interest because of the various voices all talking about the same subject in a different manner.

Another form of metamorphosis is represented in the next quotation:

Ex. 895.

The two middle parts carry on a free canon, with *ad libitum* parts above and below. For other instances see the full score, or the four-hand piano arrangement.

The subject of development will conclude with a few excerpts from Schubert's Tragic Symphony:

Ex. 896.

Principal Theme of the 1st Allegro.

It is scarcely necessary to remark that this is perfectly natural and melodious. Now observe the first of the elaboration:

Ex. 897.

Unisono. Tutti.

This illustrates the general principles still more plainly, especially with regard to sequence. Only the first of the motive is here developed.

In the last quotation two different phases of the principal theme are elaborated :

Ex. 898.

The musical notation for Example 898 consists of two staves. The first staff begins with a treble clef, a key signature of one flat (B-flat), and a common time signature. It starts with a forte dynamic marking 'f'. The melody is composed of eighth and sixteenth notes, with slurs and accents. The second staff continues the sequence, also in the same key and time signature, and ends with 'etc.'.

At (a) the rhythm is slightly altered, and no attempt is made to pursue the natural trend of the melody. At (b) a smaller fragment of the original motive is taken as a model, and this is continued in sequence beyond the quotation.

In addition to sequence and passage, the various kinds of canonic imitation play important parts in elaboration. Augmentation, diminution, repetition, rhythmic imitation and transition are also means to this end. But the lessons should not terminate here. The student must consult standard compositions in this and all other matters that relate to musical construction. Enough has been explained to enable the observing reader to examine profitably the thematic work of eminent composers, and they are the greatest teachers of the secrets of composition.

In Mozart's last three symphonies the fourth as well as the first movements are in sonata form. The finale to the "Jupiter Symphony" contains the most ingenious and complicated development. The unraveling of these musical threads will sufficiently tax the mind of the reader, though it was all perfectly easy to Mozart!

AFFINITY OF MOTIVES.

A feature of great importance now demands attention, and as it is a more or less latent principle the young composer will do well to give to it his most serious endeavor. Reference is made to Unity of design, or the innate affinity and relationship of the different movements to the original motive. A symphony, overture, concerto, string-quartet, sonata, is not a hotch-potch medley, but a congruous

and connected work; a logical illustration of some musical impression. The motive is to be considered as a subject to be discoursed upon and illustrated in various lights and colors. Such a work as Tschaikowski's *E-minor* Symphony is the psychological expression of a series of kindred emotional images.

The leading motives from Schubert's *B-flat* Symphony are quoted. These represent the four movements:

Ex. 899.

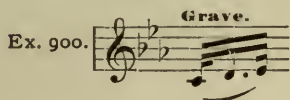
The musical score consists of six staves of music in G-flat major, 4/4 time. The first staff is marked 'Allegro.' and shows a chord-motive labeled 'a'. The second staff is marked 'etc.' and shows a counter-subject labeled 'b'. The third staff is marked 'Andante.' and shows a section labeled 'c'. The fourth staff is marked 'Minuet.' and shows a section labeled 'd', followed by a section labeled 'Trio.' and 'e'. The fifth staff is marked 'Finale.' and shows a section labeled 'f'. The sixth staff is marked 'etc.' and shows sections labeled 'g' and 'h'.

The principal theme (a) is a chord-motive, and the various ramifications of this may easily be traced through the entire symphony. Another phase of the subject appears at the sixth measure, which is employed as a counter-subject during the repetition. A section of the 2d theme appears at (b). The outline of this is also a chord-motive. No analytical knowledge is required in tracing the affinity between the allegro and the andante.

The minuet contains the same motive in different measure, and changed from major to minor. In the trio the original motive is reversed. The same coherency is observable in the *finale*. See (f), (g), and (h).

Attention is now directed to the Sonata, Op. 13, by Beethoven.

This should be examined in detail, for the unity of design is distinctly traceable. Observe first these three notes, the germ of the sonata :



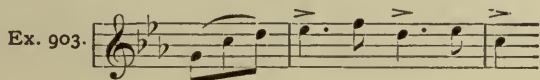
They occur in the very first of the allegro, and are indicated by accent marks :



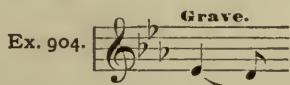
In the second subject they appear in this form :



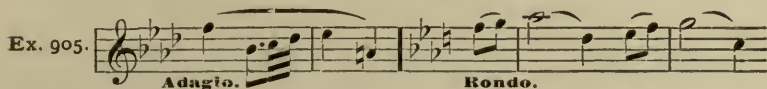
and in the rondo thus :



Observe, not only the *c, d, e-flat*, but the *e-flat, d, c*, descending, which is the original motive reversed. These tones also occur in the episode, and in the second theme of the adagio, though the latter is founded upon the second half of the original motive :



Another melodic figure, of a subsidiary character, occurs in all the movements in different guises. Two of these are presented :



Even this motive is a natural outgrowth of the principal theme.

The suites and partitas of Corelli, Couperin, Scarlatti, Paradisi, Bach and Haendel contain many interesting illustrations of coherent thematic development and affinity of motives. The melodists of the 18th and 19th centuries frequently lost sight of congruity and homo-

generity, though the best composers of the present century have aimed at greater unity and connection. Many of Grieg's works contain but a single motive worked out and elaborated in the most concise and masterly manner. Observe the funeral march upon the death of Åse, and the last movement in the first *Peer Gynt* suite.

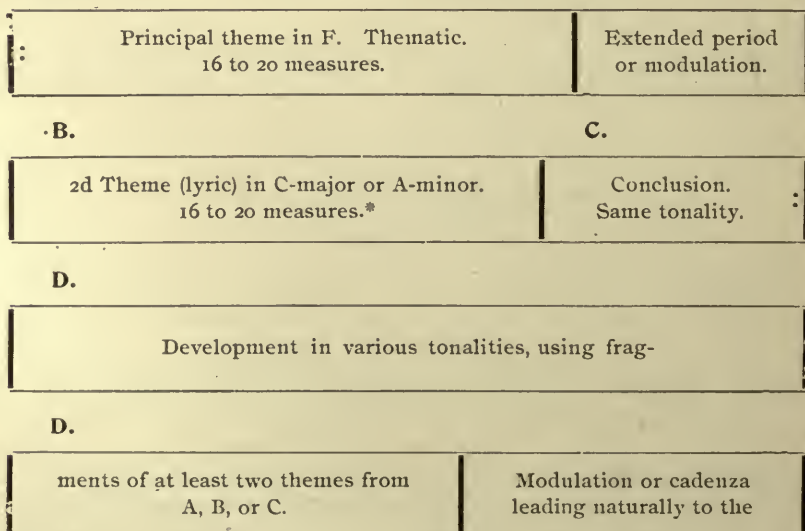
SONATA FORM IN MINOR.

The principal differences here are in relation to mode and tonality. The classical formula is as follows: First theme in tonic minor; second theme in the relative major; conclusion, the same. This last subdivision is sometimes modulated to the dominant on account of the repeat. Development in various tonalities; reprise, tonic minor; second subject, tonic major, or tonic minor; conclusion, the same. The relative major of the subdominant is also used for the second theme in the last division.

The student should now attempt the composition of a Sonatina in major, and one in minor. To facilitate these lessons a few diagrams are given, showing the forms in outline:

SONATINA IN F-MAJOR.

Allegro I. A.



*The spaces represent the relative mensural proportion of the different divisions and subdivisions.

A.

Reprise. Same as first subdivision in F.
--

B.

2d theme in F-major or D-minor.	C.
---------------------------------	----

2d theme in F-major or D-minor.	C.
---------------------------------	----

At the end of the first subject in the reprise the modulation must of course be altered.

A coda is sometimes added to the conclusion as final ending. Or the conclusion may be extended. See Beethoven's Sonata in *F-minor*, Op. 2, No. 1.

Andante II (a).D-MINOR, B \flat , OR D \flat -MAJOR.

:	1st Period.	::	2d Period.	:	Coda.
---	-------------	----	------------	---	-------

II (b) or this form may be substituted for (a).

Principal theme extended.	Intermezzo. (irregular.)
---------------------------	-----------------------------

Main theme repeated and somewhat varied.	Coda.
--	-------

At least one change in measure should be included, for it is not well to have all the movements alike in this respect.

Rondo III. In F.

Principal theme. About 16 measures.	Intermezzo, irregular and transitional.
-------------------------------------	--

Principal theme as at first, in F.

2d theme in some parallel key.	{ A contrast to the main theme.	Eingang or cadenza, leading to the
--------------------------------	---------------------------------	------------------------------------

Principal theme as at first.	Termination, or coda in F.
------------------------------	----------------------------

The difference between a regular period with coda and an extended period may be illustrated in this manner:

Regular period of 16 measures.	Coda of 4 measures.
--------------------------------	---------------------

Extended period of 20 measures.

The first is isolated, the second is continuous and uninterrupted.

Irregular intermezzo is intended to signify that the mensural proportion is uneven, and that the construction, being less melodious than the preceding period, does not divide itself into regular phrases and sections. This is also a peculiar feature of *eingang*, anticipation, coda, and termination. The student must not conclude from this that rhythmical balance and symmetrical proportion may be lightly set aside. Irregular periodic construction is effective only as a relief to the even rhythmical balance of regular periods; and the former must be so conceived that the irregularity is not especially noticeable.*

It will be a pleasant task for the student to fill in these outlines, though some difficulty may be encountered in devising motives with sufficient affinity for the various movements.

No diagrams are necessary for the sonatina in minor, because the outlines remain very nearly the same.

* These features are illustrated in *Musical Analysis*.

With regard to the slow movements, the first form (a) may be used for the sonatina in *major*, and the second (b) for the one in *minor*.

In the rondo of the latter a recollection and stretto* may be substituted for the termination indicated in the diagram.

(If required, motives may be found in the Key to this work.)

A few concluding sentences with regard to the manner of composing: Creative artists do not strum out their music from the keyboard of a piano or an organ. That is manufacturing, not composing music. If one can conceive a theme, or a harmonic progression, it can be committed to paper without the aid of an instrument. And the very conception of an idea presupposes that its author knows how it will sound.†

Certain students may, however, need the very practice which this strumming process affords, and it might be advisable for them to test every phrase, section and period through the agency of a piano or organ; at least until they can judge a passage independently of its actual performance.

* These features are illustrated in Musical Analysis.

† Hans Richter asserts that while composing *The Mastersingers*, Wagner never sounded the piano in his music-room.



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This Index is designed more particularly for the use of advanced students in reviewing their theoretical work.

The subjects treated are so numerous that a process of summarization becomes necessary. All the information upon a given topic must, in reviewing, be gleaned from different parts of the book and focused upon that particular point.

This will also enable one to make the necessary distinctions between elementary restrictions and final applications.

THE AUTHOR.

KEY TO EXAMPLES.

(FOR SELF-INSTRUCTION.)

NOTE.

THE principal seventh chords are indicated thus:

- I. Dominant 7th;
- II. Diminished 7th;
- III. Leading-note 7th.

Secondary seventh chords are marked IV, V, and sometimes III.

Augmented-sixth chords are indicated by cardinal numbers, 1, 2, 3.

Inversions are marked (1), (2), (3), in place of the old thorough-base figures.

The cipher, o, indicates a harmonic note above, or a root-note below.

Solution to Ex. 72. Chapter IX.

(With connecting links throughout.)

The chord of *E-flat* would be equally correct at these places +, but the *G-minor* chord affords more variety.

Ex. 77.

Skips of a 3d. Chapter X.

Ex. 81.

Skips of a 4th. Chapter XI.

Ex. 87.

The chord of *F#minor* may be used at (a) and (c), or the *D-major* chord could be substituted at (b).

Thirty Harmonic Progressions in B-flat. Chapter XIII.

The image displays five numbered harmonic progressions in B-flat major. Each progression is shown in two staves: a treble staff with chords and a bass staff with a simple bass line. The progressions are labeled 'No. 1.' through '5.'.

The first five of the thirty progressions are given, as an indication of the manner in which the others are to be written. These include every possible progression by means of concords.

Preparatory Theme Harmonized in Two Ways.

The image shows a preparatory theme in G major, consisting of a treble staff with chords and a bass staff with a simple bass line. The two ways of harmonization are labeled 'a' and 'b'.

Ex. 109.

The image shows the same preparatory theme in G major as above, but with a different bass line for the second way of harmonization, labeled 'b'.

These should be written in several scales. The order of progression is reversible.

Exercise on a Fundamental Base.

Ex. 117.

Musical notation for Exercise 117, showing a treble and bass staff. The treble staff contains a series of chords, and the bass staff contains a corresponding bass line. The key signature has two sharps (F# and C#) and the time signature is 4/2.

(Two re-arrangements of this.)

Another Method for Harmonizing Skips of a 3d.

Ex. 125.

Musical notation for Exercise 125, showing two systems of treble and bass staves. The first system is labeled "Disconnected Progressions." and includes fingerings (5, 8, 5, 8) above the chords. The second system includes fingerings (8, 5, 8, 5, 3) above the chords. The key signature has two flats (Bb and Eb) and the time signature is 4/2.

The student's exercise should correspond exactly to this.

Theme Harmonized in A-minor.

Ex. 132.

Musical notation for Exercise 132, showing a treble and bass staff. The treble staff contains a series of chords, and the bass staff contains a corresponding bass line. The key signature has no sharps or flats (A-minor) and the time signature is 3/2.

C-major and Relative Minor Combined.

Ex. 141.

Musical notation for Exercise 141, showing a treble and bass staff. The treble staff contains a series of chords, and the bass staff contains a corresponding bass line. The key signature has no sharps or flats (C-major) and the time signature is 3/4.

Chapter XVIII. Table of Modulations.

Two more arrangements of this, with the same base.

Modulatory Theme Harmonized.

Ex. 154.

3d or 5th Omitted from Dominant 7th Chords.

Ex. 185.

Major and Minor Resolutions.

Ex. 193.

Inverted Bases. Chapter XXVII.

Ex. 248.

The inversions (2) are the result of melodic progressions in the base.

Primary Resolutions of the Diminished 7th.

Ex. 306.

Ex. 309.

All fundamental progressions, excepting +, (2).

Corresponding Dominant 7th Chords. Chapter XXXII.

Enharmonic equivalents, (a) and (b).

Intermediate and Terminal Resolutions. Chapter XXXIII.

Two systems of musical notation. Each system consists of a treble staff and a bass staff. The first system has three measures in the treble staff, labeled 'a', 'b', and 'c'. The bass staff has fingerings: (1) (1) (2) 0 for the first measure, (1) (1) (2) 0 for the second, and (1) (1) (2) 0 for the third. The second system has four measures in the treble staff, labeled 'a', 'b', 'c', and 'a'. The bass staff has fingerings: (2) (1) (2) 0 for the first measure, (2) (1) (2) 0 for the second, (3) 2 0 0 for the third, and (3) 2 0 0 for the fourth.

Two more arrangements of the last.

Farther View of Inverted Bases.

Ex. 335.

Two systems of musical notation. The first system is in 4/4 time and has five measures. The treble staff has chords labeled I, II, I, I, II. The bass staff has fingerings: (2) for the first measure, (2) for the second, (1) (2) for the third, (2) for the fourth, and (2) for the fifth. The second system is in 4/4 time and has five measures. The treble staff has chords labeled I, II, I, I, I. The bass staff has fingerings: (2) for the first measure, (3) for the second, (3) I for the third, and I for the fourth.

*The 7th ascends here to avoid the half-open position, and because this is not a final cadence. It is, rather, an intermediate progression.

Chapter XXXVI. Exs. 365 and 366.

In the first chord *g* and *b* represent the *G*-major triad. Therefore *d* is the remaining note. In the next two chords *e* is wanting, thus:



The fourth and fifth chords are complete. Small notes indicate the remaining intervals of the sixth, seventh and eighth chords:



The harmony is sufficiently represented in the original example. But in supplying adventitious parts it is often necessary to understand the theory of chord representation, especially where but two notes of a four-fold discord are present. It is evident that *d* is wanting in the last two chords of Ex. 366.

Sequence of Essential Discords.

Ex. 380.

Chapter XXXVIII.

Enharmonic equivalents.

These represent merely the changes in notation of the three primary diminished 7th chords, A, B and C, resolving naturally to fifteen minor key-notes. The inversions are also to be worked out.

Sequence of Diminished 7th Chords.

Ex. 408.

0 II - - - - - I 0

Passing Chords. Chapter XL.

Ex. 429.

Augmented 6th Chords.

No. 1.

Ex. 481
and 482.

a c

Ex. 505.

1. 2. 3.

Re-arrange, but do not invert, this exercise.

Ex. 506.

Sequence of dominant 7th chords terminating with an augmented 6th chord for the cadence. The first system shows chords labeled v, 1., I, III, and 2. The second system shows chords labeled I, IV, 3., I, and I. A (2) is written below the second system.

Sequence of Dominant 7th Chords Terminating with an Augmented 6th Chord for the Cadence. Chapter XLVI.

Example (a) In major. The sequence shows chords labeled a, In major, and 3. Example (b) In minor. The sequence shows chords labeled b, In minor, and 1.

In example (a) the chord numbered 3 is an enharmonic expediency; $c\sharp$ and $e\sharp$ being substituted for $d\flat$ and $f\flat$ of the essential discord on *G-flat*.

In example (b) only one enharmonic change is made: $C\sharp$ is substituted for $d\flat$ in the descending sequence in order to make the direct cadence in *G-minor*. In all such instances the augmented 6th chords are resolved according to previous directions.

Suspensions Resolving to a Changing Harmony.

Ex. 595.

Appoggiaturas Harmonized.

Ex. 669.

Harmonic Counterpoint. Chapter LIX.

Ex. 729.

*In place of this passing diminished 7th chord the essential discord may be retained, considering the $c\#$ as an appoggiatura.

Passing Tones and Appoggiaturas.

Ex. 732^a.

In the first measure the tenor might sing the tone between a and c , as it would accord very well with the base and soprano. But this would compel the contralto to descend to e . A slightly different arrangement is added

Ex. 732^b.

This is an improvement, though the first measure is really melodic counterpoint.

Elaboration of Ex. 739.

Harmonic Sequence. Chapter LXIII.

Ex. 809a.

Secondary and Principal Sevenths.

Ex. 809b.

Motives for Sonatins in F-major and in D-minor.

Allegro. a

Allegro moderato. b

Each motive is divided into semi-phrases, which may be used separately in the development.

Univ
S

ANEX

STACK ANNEX