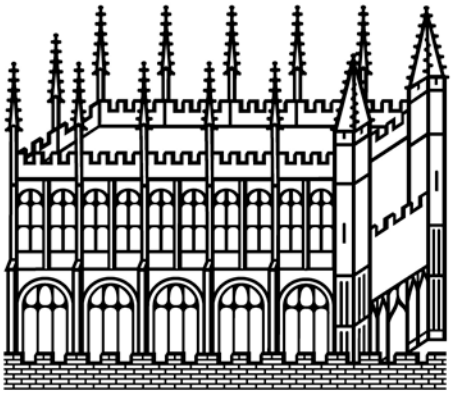

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A

THEORY OF HARMONY

FOUNDED ON THE TEMPERED SCALE

A

RIVINGTONS

London .. .. *Waterloo Place.*
Oxford .. .. *High Street.*
Cambridge .. .. *Trinity Street.*

A

THEORY OF HARMONY

FOUNDED ON THE TEMPERED SCALE

WITH

QUESTIONS AND EXERCISES FOR THE USE OF STUDENTS

By JOHN STAINER, Mus. Doc., M.A.,

MAGD. COLL. OXON.

RIVINGTONS

London, Oxford, and Cambridge

1871

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174. h. 17.

Dedicated

TO

PROFESSOR MAX MÜLLER,

WHO,

THOUGH UNABLE TO DEVOTE HIMSELF TO THE

ART OF MUSIC,

OWING TO THE CLAIMS MADE ON HIS TIME

BY OTHER FIELDS OF LABOUR,

FORGETS NOT TO ENCOURAGE BY HIS SYMPATHY AND KINDNESS,

THOSE WHO ARE PRESSING FORWARD

IN ITS PATHS.

PREFACE.

MODERN music owes much of its beauty to the use of "doubtful chords;" that is, chords which belong equally to more than one key. Now, if an enharmonic scale were feasible, such chords could not exist, because mathematical correctness of ratio would make every chord strictly in tune in one key, instead of allowing it to be somewhat out of tune in several keys. The whole of our musical literature, from the works of Bach to those of Wagner, would therefore be unavailable for instruments with an enharmonic scale.

It is said voices and instruments of the violin class, not only can, but do make use of an enharmonic scale. This is tantamount to saying that singers and violinists, when reading from a separate part, know whether a note they are sounding is used by the composer according to its apparent notation, or as part of a chord of a different nature, or as both interchangeably; and not only this, but are also aware in each case what the fundamental sound is, from which the ratios of vibrations are calculated, and what is the exact ratio of the note they are sounding, and in defiance of notation are altering the pitch of the sound, or in other words are making two or more notes out of the one before them, so as to adapt it to its various combinations. Such a statement may be taken for what it is worth, although it should be said that many practised musicians who believe themselves endowed with an instinct leading to such marvellous results, will be found on examination to have formed for themselves

this so-called instinct from the harmonic laws of the tempered scale.

Musicians, therefore, have evidently this dilemma before them, either they must adopt an enharmonic scale and sacrifice the existing musical literature, or, if they wish to retain the literature, they must give up the theory of an enharmonic scale. Those who accept the former of these alternatives, are only consistent when they say, "Is it credible the composer intended the gibberish resulting from making one sound serve for what he has so painfully distinguished?"* This kind of music, consisting largely of doubtful chords, which the clever musical mathematician has termed, not very elegantly, gibberish, is the music of Bach, Haydn, Mozart, Beethoven, Spohr, Mendelssohn, and their followers. No apology is needed for saying that the second alternative has been chosen as the basis of this work, though not without very careful consideration.

It has been pointed out that the alternatives on which a system of harmony can be founded are mutually destructive, it will therefore surprise many to find that, as a rule, modern theorists attempt to draw their laws of harmony from both sources, by taking a series of natural harmonics and thence evolving laws which shall govern the progression of chords made up of tempered intervals. It is interesting to watch the process by which this is accomplished, and as it is identical in a long list of authors, it shall be given. From a few natural harmonics exhibited in a diagram, about a dozen of the hundreds of chords in use are constructed; the insufficiency of the number of the chords being then too apparent, Nature is taxed with being out of tune, and tempered intervals are introduced to allow of the construction of some of the most ordinary chords in music. This is sufficiently inconsistent, but this is not all; for while some harmonics high in the series are selected for use, others, such as the seventh and

* Perronet Thompson ('Principles of Just Intonation') speaking of Spohr's music. Notes, § 114.

eleventh, are either summarily rejected or altogether ignored. It is, of course, fair to ask on what grounds such harmonics are thrown aside by the advocates of a mathematical theory of harmony. The learned author just quoted answers: "It is like a statuary's asking why he is to throw away the chips, and why they are not as well worth keeping as anything else. It is because they are what he wanted to get rid of, to come at what he wanted to retain." This is a plain acknowledgment that mathematicians do not want that which practical musicians do not use, and also, that some intervals more correct than others in actual use, are found to be useless. Nor is the question fairly put; it is not asked, "why throw away the chips?" but "among your chips are found some which, on your own principles, ought to be part of a mathematically true hand or nose; how do you account for the fact of your discarding them in the formation of your statue?"

It must surely be right in looking around for a foundation for a theory of harmony, to avoid a compromise such as has been described, which can never succeed in amalgamating two opposing systems. The tempered scale is certainly out of tune, and will not bear to have its proportions exhibited to an audience with better eyes than ears, on a white screen; but its sounds have nevertheless been a source of as real pleasure to all great composers, as of imaginary pain to certain theorists.

When musical mathematicians shall have agreed amongst themselves upon the exact number of divisions necessary in the octave, when mechanists shall have invented instruments upon which the new scale can be played, when practical musicians shall have framed a new system of notation which shall point out to the performer the ratio of the note he is to sound to its generator, when genius shall have used all this new material to the glory of Art—then it will be time enough to found a Theory of Harmony on a mathematical basis.

At the present time it is enough if by analyzing music as it is actually found, some generalisations can be arrived at which shall help the student to place clearly before his mind the chords which a composer has at his disposal, how they have hitherto been used, and how they may in future be used. Such is the object of this little work, which owes its origin to the notes used by the author in giving lectures to classes of University men.

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HARMONY.

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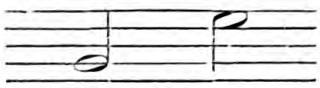
1. A musical sound differs from a noise in that the vibrations which produce it are isochronous, or of periodical recurrence.

2. Sounds differ from each other in quality, pitch, duration, and intensity. With the first of these it is out of our province to deal in this work; and we need only consider the last, with reference to the notation used for its regulation.

3. Pitch is dependent upon the quickness or slowness of the vibrations. Rapid vibrations produce a sound of a high or acute pitch: Slow vibrations, a sound of a low, or grave pitch.

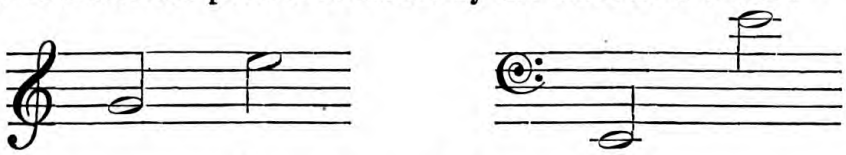
4. The relative pitch of sounds is represented to the eye by the position of notes on a stave of five lines and four spaces, thus:—



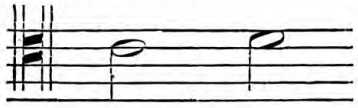
We here know that the latter of these notes is the sign of a higher pitch than that of the former.

Lines placed temporarily above or below the stave are called Ledger lines:—

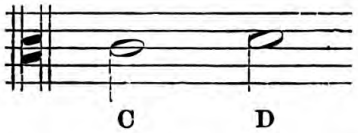
5. The absolute pitch is indicated by the addition of a clef:—



6. The C Clef attaches the sound known as middle C to the line on which it is placed. There are several C clefs, but the Tenor Clef is the one most in use:—

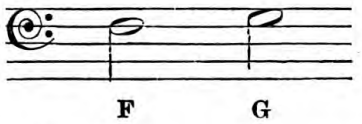


7. The Alto Clef is used for writing the Viola or Tenor-Violin part:—



8. The Soprano Clef is rarely used except in full scores, where it is sometimes used for the first Treble voice part (as also is the Alto Clef for the second Treble part), in order that the conductor may not confuse the voice parts with the first and second violin parts, which are always written in the Treble Clef.

9. The Bass or F Clef, is used for the music given to bass instruments, such as the violoncello, bassoon, &c., and invariably for the bass voice part:—



The high notes of the bassoon and violoncello, which would often require an inconvenient number of Ledger lines, are written in the tenor clef, but occasionally the high notes of the violoncello are written in the treble clef.

10. In order to simplify music, the Alto Clef has been very rightly superseded by the treble clef, for the alto voice part. But to give up the tenor clef, for the tenor voice-part, is not a step

in the right direction, because, if the treble clef is used in its place, it must be notified that the performer is to sing an octave lower, thus defeating the very object of a clef, which is to show the absolute pitch.

11. The relative Duration of Sounds is represented by the shape of the notes. Ex.:—

Breve. Semibreve. Minim. Crotchet. Quaver. Semiquaver. Demisemiquaver.

A breve is equal to two semibreves. A semibreve is equal to two minims, &c., each note being half the value of the one immediately preceding it.

12. The Rests, or directions for silence which correspond to the above notes, are respectively

13. A dot adds one half to the duration of the note or rest to which it is appended.

Ex. is a note equal to three minims.

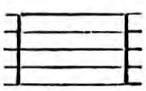
Ex. is a rest equal to three semiquavers.

A second dot adds half the value of the first dot, that is to say, one quarter, to the value of a note or rest to which it is appended.

Ex. is equal to seven crotchets; is a rest of seven semiquavers. A note or rest thus lengthened is said to have a double dot.

14. The absolute duration of a sound may be determined by the use of a metronomic sign. Ex. = 100. M.M. signifies that each minim, in the movement to which it is prefixed, will equal one beat of the pendulum of Maelzel's metronome when the moveable regulator is placed at 100 on the index. = 6 inches signifies that a crotchet is to equal in duration the length of time a pendulum (with *any* weight attached) six inches in length will require for each oscillation.

15. Music cannot exist without Accent and Rhythm. Accent, or the laying of stress on notes at regularly recurring intervals of time, is secured by dividing every succession of notes into sections called Bars. Ex.



A Bar.

The word Bar is used in two senses; first, for the name of the actual sign; secondly, for the portion of music lying between two such signs. An accent falls on the first note in every bar.

A Double Bar denotes the close of a movement, or the temporary close which precedes a change of time or key. It is also generally placed after the direction termed a "repeat," *e.g.*

16. Rhythm is the correct grouping of properly accented notes into musical phrases or sentences.

17. Time in music is the distance between the accents. Since then Accent is indicated by bars, Time is determined by giving at the commencement of a movement the aggregate duration of the notes contained in each bar.

Time is Duple or Triple. If the accent occurs at equal intervals of time, the music is in Duple Time; if at unequal, in Triple Time. For example, if a bar is divided into 2, 4, 6 (two threes), or 8, the time is duple; if into 3, 6 (three twos), or 9, triple. An equal number of groups of three notes comes under the class duple; an unequal number of groups of two notes comes under the class Triple. Such kinds of time are called Compound.

Time is expressed by $\mathbf{C}$ and $\mathbf{\Cent}$ for duple, or by fractional parts of a semibreve for duple or triple time, as $\frac{2}{4}$ two crotchets in a bar; $\frac{3}{4}$ three crotchets; $\frac{9}{8}$ nine quavers.

Time, in the sense of pace, is often expressed approximately by the use of the Italian words, *largo, adagio, lento, grave, andante, allegro, presto,* &c., with their diminutives and superlatives; and for greater definiteness with such qualifying words as *piu, assai, commodo,* &c.

The Italian words *forte, piano, sforzando, crescendo, diminuendo,* &c., are used in various ways to regulate the intensity of sound. It is unnecessary, however, to enlarge on this, or on some of the preceding subjects.

CHAPTER II.*

Natural recognition of the Interval of an Octave.—The Divisions of the Octave.—Scale. — Chromatic Scale. — Diatonic Scale. — Normal Scale. — Sharps, Flats, Naturals.—Signature.—Accidentals.—Different Forms of the Minor Scale.—The Relative Minor.—The Tonic Minor.—Intervals.—Intervals in their normal State.—The Major Fifth.—Minor, Augmented, and Compound Intervals.—Diminished Intervals.—Names of the Degrees of a Diatonic Scale.

18. The ear feels that every sound, or succession of sounds, is capable of repetition at a certain distance above or below without any perceptible alteration or change, except in the pitch. The distance at which this repetition is found to take place is called the interval of an octave.

19. The Octave is divided into twelve parts called mean semitones, or commonly, semitones.

Two semitones make one tone. The word "degree" is used to express either a tone or a semitone.

20. A Scale is a succession of sounds which proceeds by single degrees, the nature of the degrees being determined by custom.

21. A scale consisting of semitones only, is called Chromatic.

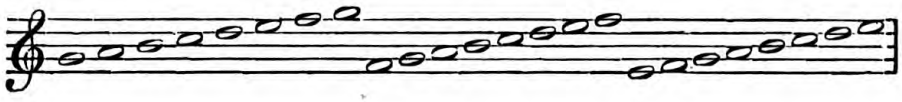
22. A Diatonic scale consists of a mixture of tones and semitones, and is of two kinds, major and minor. (When the word Scale is used by itself, a diatonic scale is to be understood). In the Major Scale the fourth and eighth degrees are semitones, the rest tones.

Taking a stave, and writing successions of eight notes, beginning from any line or space, it will be found that there is one note only,

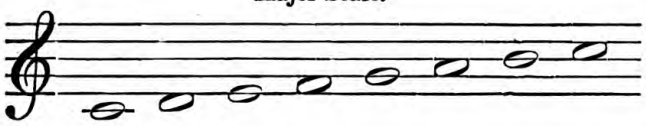
---

* The Student will do well to read at this point the rules for "figured bass" in the Appendix, and also to carry on the writing of exercises simultaneously with the study of the construction of chords; on every occasion in which a discord occurs, both in the examples and exercises, stating the ground-note, number of the inversion, and the names of the intervals which form the chord, reckoning from the ground-note.

namely C, from which as a starting point the conventional arrangement of tones and semitones, termed the major scale, can be obtained, *e.g.*—



Major Scale.



The scale of C, therefore, is the normal scale, and hence the prominent position which it holds in musical treatises.

23. In order to construct scales on other notes than C, certain signs are used for raising and flattening notes. The sharp ♯ raises, the flat ♭ lowers, the note to which it is prefixed, a semitone. These signs, when placed at the beginning of a piece of music, show by their position on the stave the notes which are to be raised or flattened throughout.

For the purpose of temporarily restoring a sharpened or flattened note to its position in the normal scale, a natural ♮ is used. Its duty is, therefore, twofold—to flatten a sharpened note, to sharpen a flattened note. A double sharp × raises a note a whole tone; a double flat ♭♭ flattens a note a whole tone.

24. The Clef, sign of time, and sign of Key placed at the beginning of a movement are called collectively the Signature. But the sign of the time and the sign of the key are also called separately the time-signature and key-signature. By key is understood the particular scale employed.

25. Any of the signs ♯, ♭, ♮, ×, or ♭♭, occurring otherwise than in the signature, are called Accidentals. The influence of an accidental extends through one bar, unless before the end of that bar it is contradicted by another sign. A doubly-sharpened note is reduced to a sharpened note by ♮♯, and to a natural by ♮♮. A doubly-flattened note is reduced to a flattened note by ♮♭, and to a natural by ♮♮.

26. The Minor Scale has several different forms.

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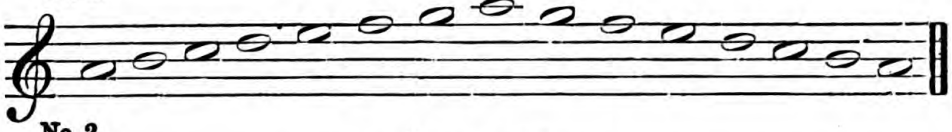

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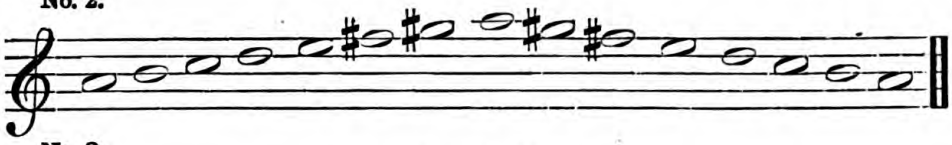

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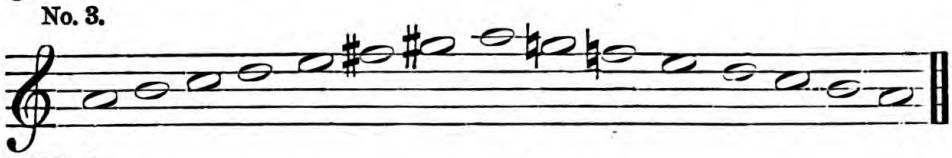


No. 4.

These are placed in chronological order, the first being one of the earliest forms of the minor scale, the last the most modern. It can scarcely be said that the first two forms are obsolete, for although rarely now used in their entirety, fragments are met with commonly enough.

It will be seen that No. 3 is a compromise between Nos. 1 and 2, borrowing its ascent from No. 2, its descent from No. 1. It is not surprising that such a compromise should be gradually giving place to the beautiful form of No. 4, which has the advantage of having its ascent and descent exactly similar to each other, and of containing the ingredients of one of the most important chords in modern music. (See Chap. VII. § 161.)

Music in any major key is said to be in the major mode; music in a minor key in the minor mode.

It is, perhaps, hardly necessary to remind the reader that music has made the scales, not the scales music. No. 4 of the above forms was in use in fine compositions long before theorists ventured to write it out and dignify it with the name of a scale. It is wonderful that it has escaped being called a "licence."

27. A minor scale commencing on the note a minor third below any major scale is called the relative minor of that scale, *e. g.*, D minor is the relative minor of F major. The scale of a relative minor consists of the same notes as that of its relative major, with one exception, namely, the seventh degree (the fifth of its relative major) which is raised one semitone. A minor scale beginning on

the same note as a major scale is called a tonic minor; *e. g.*, D minor is the tonic minor of D major. The tonic minor scale differs from its tonic major in its third and sixth degrees, both of which are flattened by one semitone.

28. The distance between any two notes is termed an Interval. Intervals are reckoned—

1. Upwards.
2. Inclusively.
3. By the number of names of notes they contain.

The first rule requires no explanation. No. 2 signifies that both boundaries are counted in as C to E, a third. No. 3 is laid down to guard against the counting of intervals by their sound or appearance on a keyboard; *e. g.*, C to G♭ and C to F♯ are practically the same; but C to G♭ is a fifth, and C to F♯ a fourth, because the former contains five *names*, the latter four.

29. Intervals are found in their normal or unaltered state in the relation between a key-note and the other steps of a major scale, *e.g.*—

C to D is a major second.	If in the next octave above,	a major ninth.
C to E is a major third.	„	a major tenth.
C to F is a major fourth.	„	a major eleventh.
C to G is a major fifth.	„	a major twelfth.
C to A is a major sixth.	„	a major thirteenth.
C to B is a major seventh.	„	a major fourteenth.
C to C is a major octave.	„	a major fifteenth.

Intervals within the compass of one octave are called simple; beyond that limit, compound.

It was long customary to call fourths, fifths, and octaves perfect intervals, the remainder imperfect. When consonance was supposed to depend upon simplicity of ratio, a fifth (of which the ratio is $\frac{2}{3}$) ranked next to an octave ($\frac{1}{2}$), and before a fourth ($\frac{3}{4}$); the fourth being considered a more consonant interval than the third ($\frac{4}{5}$). But, practically, none of these intervals are of so great value in harmony as the third; it is time, therefore, that fifths, fourths, and octaves were shorn of this unmeaning title, especially as music is already overburdened with technicalities. Much confusion also arose from this division of intervals, in consequence of the term "imperfect" being applied to the perfect intervals when contracted. For example; an imperfect fifth meant a minor fifth; but a sixth was called imperfect, whether major or minor.

30. All intervals are capable of expansion or contraction. By the former, intervals are converted from major into augmented; by the latter, from major into minor.

C to D♭ .. .. minor second.	C to D♯ .. .. augmented second.
C to E♭ .. .. minor third.	C to E♯ .. .. augmented third.
C to F♭ .. .. minor fourth.	C to F♯ .. .. augmented fourth.
C to G♭ .. .. minor fifth.	C to G♯ .. .. augmented fifth.
C to A♭ .. .. minor sixth.	C to A♯ .. .. augmented sixth.
C to B♭ .. .. minor seventh.	C to B♯ .. .. augmented seventh.
C to C♭ .. .. minor octave.	C to C♯ .. .. augmented octave.

Compound intervals are similarly named, *e. g.*—

Minor Ninth. Major Tenth. Augmented Eleventh.

A diminished interval is one less than minor, *e. g.*, C♯ to B♭ is a diminished seventh.

31. The following names are given to the different degrees of the major or minor scale in order that we may be able to speak of them irrespective of key or pitch :—

1st degree	tonic.
2nd „	supertonic.
3rd „	mediant.
4th „	subdominant.
5th „	dominant.
6th „	superdominant (or submediant).
7th „	subtonic (or leading note).

The supertonic is so named because it is one degree above the tonic. The superdominant is so called for its similar relation to the dominant. The subdominant and subtonic are both named after the degree below which they occur. The term submediant is said to have been applied to the sixth degree, because, if inverted, it would lie as a mediant between the tonic and a fifth below the tonic. If no better reason can be found for preserving the term, the sooner it is lost to use the better. The dominant is so named because harmonies placed upon it have a strong tendency to resolve into those of the tonic; the dominant, therefore, may be well said to "command" the key. See on the subject of the force of the dominant, § 281.

CHAPTER III.

The Material of Harmony.—Chord.—Formation of Chords by Thirds.—Importance of the Interval of a Third.—An Interval smaller than a Third, discordant.—Discord.—Resolution.—Implied Discord.—Resolution variable.—Method of cataloguing Chords.—Tonic and Dominant, Ground-notes of Chords.—Original Position of a Chord.—Root or Ground-note.—Position of a Chord unchanged by Alteration of relative Position of Upper Notes.—Inversion.—Method of calculating Inversions.—General Rule for finding the Number of Inversions of any Chord.

32. Melody existed before Harmony (using both words in their modern sense); the sounds, therefore, which were first used for the purpose of harmonization must have been taken from the component parts of the melody, that is to say, from the Scale.

33. A Chord, therefore, is defined as "a combination of notes taken from a scale, or sometimes (but rarely) from two closely-allied scales."

Further on will be found an explanation of a few chords derived from two closely-allied scales, see § 204.

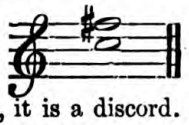
34. It must now be considered on what system notes are combined so as to form chords. It is simply this: by adding thirds together, the thirds being major or minor according to their nature in the scale from which they are taken.

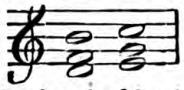
Until the interval of a third is allowed to be the basis of all harmony, no theory of music can possibly be formed which will be true to facts. The old veneration for the perfections of the fourth and fifth, hardly yet extinct, helped to degrade thirds by calling them imperfect intervals; yet the greater number of those lovely chords which ravish us so much, and furnish us with an endless source of modulation (such as the chord of the diminished seventh and its inversions), contain neither the interval of a fourth or fifth between any of the component notes. All are thirds, or their inversions, sixths. If any interval ever deserved to be called perfect, it is the third. A major fifth by itself does not give us the means of judging whether we are in the major or minor mode. Except in barbarous music, the bare major fifth is never used, unless a composer, for the purpose of producing special effects, wishes to foster the impression of doubtfulness of mode. The fourth is less entitled to be called a harmony-producing interval than the fifth. The only simple interval, then, which may be said to form harmony, is the third, both in its natural state and inverted.

35. If any interval smaller than a third be heard, it requires to be adjusted to a third before the ear is satisfied.

For instance, if C and D be struck on a pianoforte or harmonium, we must either move the C to B, making a third between B and D, or move the D to E, making a third between C and E.

36. This unsatisfactory effect of an interval smaller than a third is termed "discordant;" and the whole chord which contains it, a "Discord." The removal of the unsatisfactory effect by altering the chord so as to leave the ear satisfied, is termed a "Resolution."

The discordant interval may be implied or expressed. Thus,  contains no interval less than a third, but as the note D is implied, it is a discord. This will be more noticeable in treating of the inversions of the chord of the minor ninth.

The absence of one limb of a discordant interval gives great latitude to the resolution; for instance,  is not objectionable, because G is not expressed, whilst the following *is* objectionable, See also § 255.

37. The simplest and most natural way of arranging chords is evidently to begin with the tonic, and to go on adding thirds from the scale, until the whole of the notes of the scale are exhausted. There are of course two entirely different sets of chords—one emanating from the major scale, the other from the minor.

Chords are easily and distinctively named after the largest interval contained in them before inversion.

38. But owing to the form which the scale has now assumed, one note (the tonic) will not be the only note which appears a necessary starting-point for chord-making. The musical value of the subtonic as a note which has a natural tendency to ascend to the tonic, and which cannot of course be harmonized by the tonic, has involved the necessity for a subtonic harmony or chord. The note in the scale which presents itself at once as best adapted to the accompaniment of the subtonic, is the fifth or dominant. It may also be accompanied of course by the third above, but this note only strengthens the third below. The dominant and subtonic, therefore, act on each other. The dominant suggests the subtonic, and the subtonic asserts itself as an integral part of the chord formed by the combination of thirds starting from the dominant. All chords in which

the subtonic predominates are called dominant chords, or dominant harmony, and are reckoned and named from the dominant as a starting-point, not from the tonic.

39. A chord is said to be in its original position if the note started from (tonic or dominant) be in the bass. And this starting-point is what is frequently termed the Root or Ground-note. (The word bass is used as signifying the lowest note of a chord, without reference to its pitch.)

40. The alteration of the relative position of the upper notes does not affect the nature of a chord.

HANDEL. *Israel in Egypt.* Part II.

MENDELSSOHN. *Elijah,* "Help, Lord."

All the above chords are said to be in their original position, because the ground-note is in the bass.

41. When any other note than the ground-note is in the bass, the chord is said to be inverted.

MOZART. 12th Mass.

The chord * in the above is called an inversion of the previous chord, because one of the component notes has taken the place of the ground-note.

As all chords are made up of thirds, inversions are reckoned and named from the distance of the bass note from the root, in thirds: thus the bass of the first inversion is one third from the root; that of the second inversion, two thirds (= a fifth) from the root, and so on.

42. It is evident that every chord has one inversion fewer than the number of notes required to form that chord.

CHAPTER IV.*

Scale arranged in Thirds.—Tonic Notes discordant when used with Dominant Harmony.—The first two Thirds form the Common Chord.—Examples of the Common Chord and its two Inversions.—Combination of three Thirds forms Chord of Major Seventh.—Its twofold use.—Examples of the Chord of the Major Seventh and Suspended Subtonic, with their Inversions.—Combination of four Thirds forms Chord of Major Ninth.—Examples of Chord of Major Ninth and its Inversions.—Combination of five Thirds forms Chord of Tonic Eleventh.—When prepared known as Suspended Fourth.—Examples of the Chord of the Eleventh and its Inversion.—Full Chord of Tonic Eleventh introduces Dominant Element.—Combination of six Thirds forms Chord of Tonic Major Thirteenth.—How to distinguish between the Chord Six and Four and Major Thirteenth.—Examples of the Chord of the Tonic Major Thirteenth and its Inversions. End of Tonic Series of Chords from Major Scale.

43. Having defined a chord as a combination of thirds taken from

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* The student will do well to collect and arrange other examples.

a scale, it is necessary to exhibit a scale in thirds instead of single degrees, and to give names to the chords formed.

44. It will be found that notes concordant with the dominant become discordant when heard with the tonic. Further on (§ 88) it will be shown that tonic concords become dominant discords. Seven notes are, therefore, drawn out in thirds, starting from the tonic for the construction of the tonic series; starting from the dominant for that of the dominant series.

45. The first three of these notes give the common chord, which has two inversions.

Ex. 1. SCHUBERT. Pianoforte Sonata. Op. 53.

Ex. 2. MENDELSSOHN. Vocal Quartetts. Op. 56.

In Ex. 1 the chord * is the first inversion of the common chord of D. In Ex. 2 at * the chord is the second inversion of the common chord of E♭.

46. The chord formed by the first four notes of the preceding scale,

which consists of a third added to the common chord, is the chord of the major seventh, which is used in two distinct ways: first, as a discord in which the seventh must descend; secondly, as a chord containing the subtonic, which must ascend. The following are examples of the first-mentioned treatment of the major seventh:—

Ex. 3. MENDELSSOHN. Vocal Quartetts. Op. 59.

47. At * in Ex. 3 is the chord of the major seventh of A in its original position.

Ex. 4. SCHUMANN. *Song*, "An den Sonnenschein."

48. At * in Ex. 4 occurs the first inversion of the chord of the major seventh of A.

Ex. 5. SCHUMANN. *Song*, "Ich grolle nicht."

At * Ex. 5 will be found the second inversion of the chord of the major seventh of C.

Ex. 6. SCHUMANN. *Song*, "Schöne Fremde."

49. At * Ex. 6 is the third inversion of the chord of the major seventh of B.

The following are examples of the major seventh treated as the subtonic:—

Ex. 7. MOZART. *Idomeneo.* "Placido è il mar."

50. At * Ex. 7 is the original position of the suspended subtonic of E.

Ex. 8. SCHUBERT. Pianoforte Sonata in E♭. Op. 122.

51. At * Ex. 8 is the first inversion of the suspended subtonic of E♭.

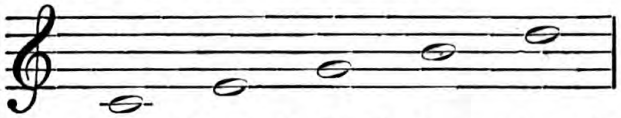
Ex. 9. J. B. CRAMER. Cadenza in Mozart, Pianoforte Concerto in D minor.

52. At * Ex. 9 occurs the second inversion of the suspended subtonic of A.

Ex. 10. BEETHOVEN. Finale of Symphony No. 4.

53. At * Ex. 10 will be found the third inversion of the suspended subtonic of C.

54. The next combination of thirds produces the chord of the major ninth on the tonic, called "on the tonic," to distinguish it from the major ninth on the dominant, the former including under it a major seventh, the latter a minor seventh.



55. When the major seventh is used with the tonic major ninth in its original position, both are generally included under the eleventh. (See § 68, Ex. 22.)

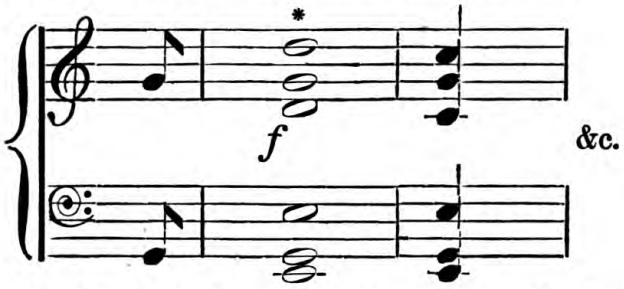
Ex. 11. SCHUBERT. Pianoforte Sonata in D. Op. 53.

56. At * Ex. 11 is the original position of the chord of the tonic major ninth, on A.

Ex. 12. GOUNOD. *Faust.* Introduction to Act IV.

57. At * Ex. 12 is the first inversion of the chord of the tonic major ninth of D, without the subtonic.

Ex. 13. BEETHOVEN. Third Overture to *Leonora.*



58. At * Ex. 13 is the first inversion of the chord of the tonic major ninth of C.

Ex. 14. SCHUMANN. *Song,* "Dem rothen Röslein gleicht mein Lieb." Op. 27. No. 2.

59. At * Ex. 14 is the second inversion of the chord of the tonic major ninth on A.

Ex. 15. BEETHOVEN. Mass in D. Prelude to Benedictus.

60. At * Ex. 15 is the third inversion of the major ninth and subtonic of G.

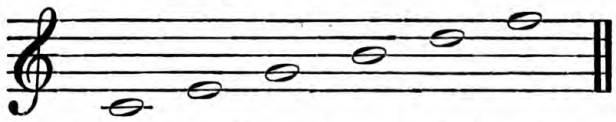
Ex. 16. SCHUBERT. Pianoforte Sonata. Op. 42.

61. At * Ex. 16 is the fourth inversion of the chord of the tonic major ninth of C.

Ex. 17. BACH. 48 Preludes and Fugues. No. 4, Book I.

62. At * Ex 17 is the fourth inversion of the major ninth of E, including the seventh.

63. The next combination of thirds is



This would, according to analogy, be called the chord of the tonic eleventh. But the tonic eleventh is the dominant seventh; the dominant harmony is therefore firmly established, and assumes as it were a separate existence. The following examples show how dominant and tonic harmony are combined. The tonic-eleventh is commonly known as the "fourth," and from its frequent preparation "the suspended fourth." It is used alone, often displacing the tonic third; or with the seventh and ninth, separately or conjointly.

Ex. 18. Rossini. *Messe Solennelle.*

64. At * Ex. 18 is the original position, of the chord of the tonic eleventh (suspended fourth) on C, the tonic third not being displaced.

Ex. 19. Bach. 48 Preludes and Fugues. Book II. No. 5. Prelude.

65. At * Ex. 19 is the tonic eleventh (suspended fourth) in its original position, on D, the third and fifth being omitted at the percussion of the discord.

Ex. 20. Beethoven. Symphony No. 2.

66. At * Ex. 20 is the tonic eleventh (suspended fourth) combined with the third and fifth, on D.

Ex. 21.

67. At * Ex. 21 is the tonic eleventh in combination with the subtonic of B ♭, commonly called the suspension $\frac{7}{4}$.

Ex. 22. BEETHOVEN. Pianoforte Sonata. No. 1. Op. 2.

68. The chord * in Ex. 22 contains the fifth, seventh, ninth, and eleventh of B ♭. It is commonly known as the suspension $\frac{9}{7}$. It consists of a full chord of the dominant seventh (see § 63) struck with the tonic.

Ex. 23. MOZART. Symphony D. No. 1.

69. At * Ex. 23 is the first inversion of the chord of the tonic eleventh (suspended fourth) of A, without the seventh and ninth.

Ex. 24. GOUNOD. *Faust.* "Il m'aime." Act III.

70. At * Ex. 24 is the same chord, on D ♭, as in Ex. 23, but with the addition of the ninth.

Ex. 25. BACH. *Passion Music.* Final Chorus.

71. At * Ex. 25 is the same chord, on E ♭, as in Examples 23, 24, but containing the seventh or suspended subtonic. This chord is commonly called the first inversion of the suspension $\frac{7}{4}$.

Ex. 26. BEETHOVEN. *Mass in D.* "Kyrie."

72. At * Ex. 26 is the second inversion of the chord of the tonic eleventh (suspended fourth) on D.

Ex. 27.

73. At * Ex. 27 is the same chord as in Ex. 26, on C, but with the addition of the ninth.

74. The third inversion of the tonic eleventh will, as above, have the subtonic in the bass. This combination is so harsh, that the tonic is generally omitted, thus leaving nothing but dominant harmony, *e. g.*,

Ex. 28.

75. In Ex. 28 the removal of the note C takes away the only vestige of tonic harmony, and makes it an inversion of the seventh on the dominant. (See § 63.)

Ex. 29. BEETHOVEN. *Mass in D.* "Agnus Dei."

76. At * Ex. 29 is the fourth inversion of the tonic eleventh and ninth of D. It is commonly called the fourth inversion of the suspension $\frac{9}{4}$.

Ex. 30. SCHUMANN. Op. 148. *Requiem.* "Sanctus."

77. At * Ex. 30 is the fifth inversion of the tonic eleventh of A ♭. It is commonly called the fifth inversion of the suspended fourth.

If the tonic ninth appeared in this chord, it would displace the A ♭ and so leave no characteristic part of the tonic harmony remaining.

78. The next combination of thirds produces the chord of the major thirteenth on the tonic. In its simplest form it is known as the suspended sixth (See Ex. 31). When used with the eleventh it is known as the suspension $\frac{6}{4}$ on the tonic.

Ex. 31. BEETHOVEN. Symphony, No. 5.

79. At * Ex. 31 is the chord of the tonic major thirteenth (tonic sixth) of E ♭.

Ex. 32. MOZART. Symphony, No. 6.

80. At * Ex. 32 is the tonic thirteenth and eleventh (sixth and fourth) of C. In this form it has, of course, the appearance of an ordinary second inversion of the common chord of F. But if we attempt to fill up the chord, we shall find that B and D, the seventh and ninth of C, when heard instead of the C, as annexed, do not disturb our notion of the *key* the passage is in; while on the other hand, the substitution of F (the derivative of the common chord of which * Ex. 32 is apparently the second inversion) for C, in the bass, sounds entirely out of place.

Ex. 33. MOZART. Symphony in C.

81. At * Ex. 33 is the full chord of the tonic thirteenth, eleventh, ninth, and subtonic, in its original position.

Ex. 34. BEETHOVEN. *Mass in D.* "Kyrie."

82. At * Ex. 34 is the first inversion of the tonic major thirteenth (suspended sixth) of D.

Ex. 35. SCHUMANN. *Paradise and the Peri.* No. 10.

83. At * Ex. 35 is the second inversion of the tonic major thirteenth of D.

84. If the seventh is in the bass, the chord becomes so harsh that it is generally modified into pure dominant harmony. The third inversion is, therefore, not in use.

85. If the ninth is in the bass, the treatment of the remaining notes is so difficult, in consequence of the harshness of the combination, that the fourth inversion also is practically useless.

Ex. 36. BEETHOVEN. *Mass in D.* "Benedictus."

86. At * Ex. 36 is the fifth inversion of the tonic major thirteenth and eleventh of G. It is commonly known as the inversion of the suspension $\frac{6}{4}$ against 5.

Ex. 37. BEETHOVEN. *Mass in D.* "Et vitam venturi."

87. At * Ex. 37 is the sixth inversion of the chord of the tonic thirteenth of B ♭. It is commonly known as the tonic sixth suspended in the bass.

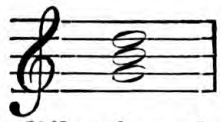
CHAPTER V.

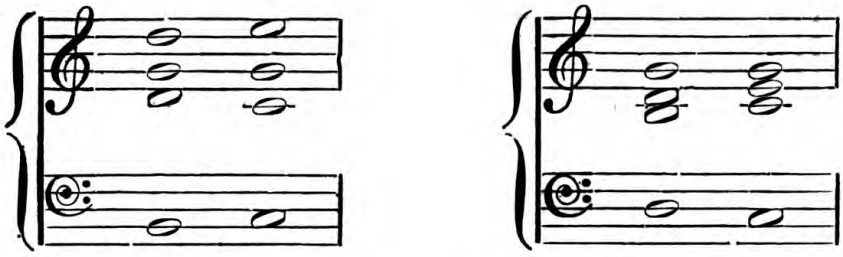
Dominant Series of Chords from Major Scale.—Common Chord of Dominant.—Combination of three Thirds from Dominant forms the Chord of Dominant Seventh.—Examples of Chord of Dominant Seventh and its Inversions.—Combination of four Thirds from Dominant forms the Chord of the Dominant Major Ninth. How to distinguish between Chords of Dominant Major Ninth, and Tonic Major Ninth.—Examples of the Chord of the Dominant Major Ninth and its Inversions—Combination of five Thirds from Dominant forms the Chord of the Dominant Eleventh.—Reason for omitting first Inversion.—Examples of Chord of Dominant Eleventh and its Inversion.—Combination of six Thirds from Dominant forms the Chord of the Dominant Thirteenth.—Examples of the Chord of the Dominant Thirteenth and its Inversions.—End of Dominant Series of Chords from Major Scale.

88. It has been shown (§ 38) that there is another note in the scale besides the tonic, from which a series of chords having, however, a tendency to revert to the tonic, is formed, that note being the dominant.

It has also been pointed out (§ 44) that many discords heard over the tonic are formed by notes concordant with the dominant, such as the subtonic and tonic ninth; and that in constructing a series of dominant chords, notes concordant with the tonic become dominant discords; whence the necessity for exhibiting a complete set of seven notes when starting from either ground-note.

The series of thirds forming dominant harmony will therefore be,

89. The first three of these notes  produces the common chord of the dominant, which differs from that of the tonic, only in its position, not in its nature. It has, of course, two inversions.



90. The next combination of thirds produces the chord of the minor seventh.

Ex. 38. CHOPIN. *Waltz.* Op. 34. No. 3.

91. Ex. 38 consists of the chord of the minor seventh of C repeated several times.

Ex. 39. CHERUBINI. "Amen." *Credo.* Mass. No. 4.

92. At * Ex. 39 is the first inversion of the chord of the minor seventh of D.

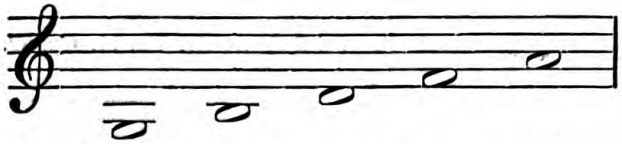
Ex. 40. SCHUMANN. *Song.* "Lied der Braut." Op. 25. No. 12.

93. At * Ex. 40 is the second inversion of the chord of the minor seventh of D.

Ex. 41. BEETHOVEN. Overture to *Prometheus.*

94. At * Ex. 41 is the third inversion of the chord of the minor seventh of C.

95. The next combination of thirds produces the chord of the major ninth on the dominant. It includes under it a minor seventh, whereas the chord of the major ninth on the tonic includes a major seventh or subtonic.



Ex. 42. SCHUMANN. Symphony in C.

96. At * Ex. 42 is the chord of the major ninth of G in its original position.

Ex. 43. BEETHOVEN. Pianoforte Sonata. Op. 26.

97. At * Ex. 43 is the first inversion of the chord of the major ninth of B ♭. This chord is sometimes called the chord of the seventh on the leading note.

Ex. 44. MENDELSSOHN. Op. 82.

98. At * Ex. 44 is the second inversion of the chord of the major ninth of B ♭.

Ex. 45. MENDELSSOHN. Vocal Quartetts. No. 11. Op. 59.

99. At * Ex. 45 is the third inversion of the chord of the major ninth of B ♭.

Ex. 46.
SCHUBERT. P.F. Sonata. No. 1. Op. 42.

Ex. 47.
BEETHOVEN. *Mass in D.* "Benedictus."

100. At * Ex. 46 is the fourth inversion of the chord of the major ninth of G, and at * Ex. 47 is the same chord derived from D.

101. The next combination of thirds produces the chord of the eleventh on the dominant.

Ex. 48. MOZART. Symphony in D. No. 5.

102. At * Ex. 48 is the chord of the eleventh on A in its original position, but without the ninth.

Ex. 49. MENDELSSOHN. *Walpurgis Night.* Final Chorus.

103. At * Ex. 49 is the chord of the eleventh of G, including the ninth, in its original position.

104. When the third of the dominant is in the bass, the introduction of the eleventh produces a very harsh combination. The first inversion of the chord of the dominant eleventh may be therefore passed over. It will be noticed that the third of the dominant is displaced by the eleventh in all the examples given.

Ex. 50. MENDELSSOHN. Vocal Quartetts. Op. 48. No. 7.

105. At * Ex. 50 is the second inversion of the chord of the eleventh of G.

Ex. 51. BEETHOVEN. Pianoforte Sonata. No. 3. Op. 29.

106. At * Ex. 51 is the third inversion of the chord of the eleventh of B♭. This chord is commonly called the chord of the added sixth.

Ex. 52.

107. At * Ex. 52 is the fourth inversion of the chord of the eleventh of B ♭.

Ex. 53. MENDELSSOHN. *St. Paul.* No. 2.

108. At * Ex. 53 is the fifth inversion of the chord of the eleventh of A. It is commonly the chord of $\frac{7}{4}$, the fourth being in the bass. The ninth is, of course, often used with it.

From the fact that the interval of the eleventh of the dominant is practically the tonic itself, this note is very commonly sustained into a common chord, or its inversion, *e. g.*

Some discordant notes are resolved by moving downwards, others by moving upwards; but the dominant eleventh, as shown in the above example, is frequently stationary, because it thus forms an important part of the chord of resolution. (Compare §. 186.)

109. The next combination of thirds produces the chord of the major thirteenth on the dominant.

Ex. 54. ROSSINI. *Messe Solennelle.* "Sanctus."

110. At * Ex. 54 is the chord of the major thirteenth of G, without the ninth and eleventh. It is known as the chord $\frac{7}{6}$.

Ex. 55. SCHUMANN. Symphony in C. No. 4.

111. At * Ex. 55 is the chord of the major thirteenth of F, with the ninth and seventh, but without the eleventh.

Ex. 56. BEETHOVEN. Sonata for Pianoforte and Violin. Op. 12. No. 2.

112. At * Ex. 56 is the first inversion of the chord of the major thirteenth of G, including the seventh, but without the ninth and eleventh.

Ex. 57. BEETHOVEN. Symphony, No. 2.

113. At * Ex. 57 is the second inversion of the chord of the major thirteenth of A, with the ninth and seventh.

Ex. 58. BACH. *Passion Music.* No. 16.

114. At * Ex. 58 is the third inversion of the chord of the major thirteenth of E ♭. including the ninth and eleventh.

Ex. 59. MENDELSSOHN. Overture for a Military Band.

115. At * Ex. 59 is the third inversion of the chord of the major thirteenth of G.

Ex. 60. BACH. *Passion Music.* No. 16.

116. At * Ex. 60 is the fourth inversion of the major thirteenth of E ♭, including the eleventh, seventh, and ninth.

Ex. 61.

117. At * Ex. 61 is the fifth inversion of the chord of the major thirteenth of D, including the seventh, ninth, and eleventh. The consecutive fifths are not unpleasant.

Ex. 62. SCHUMANN. *Song,* "Waldesgesprach."

118. At * Ex. 62 is the sixth inversion of the chord of the major thirteenth of A, including the ninth.

Ex. 63. CHOPIN. *Waltz.* Op. 64. No. 3.

119. At * Ex. 63 is the sixth inversion of the chord of the major thirteenth of G, without the eleventh and ninth.

Ex. 64. SCHUMANN. *Paradise and the Peri.* No. 9.

120. At * Ex. 64 is the sixth inversion of the chord of the major thirteenth of D. This chord and that at * Ex. 63 would be generally called the chord $\frac{7}{6}$, having the sixth in the bass.

CHAPTER VI.

Chords formed by combination of Thirds from Minor Scale.—Reason for frequent use of Minor Discords in a Major Key.—Minor Scale arranged in Thirds.—How to catalogue Chords of doubtful Appearance.—Combination of two Thirds forms Minor Common Chord.—Examples of its Inversions.—Chord of Subtonic and Minor Third formed by combination of three Thirds.—Examples of the Chord of the Subtonic and Minor Third, and its Inversions.—Combination of four Thirds forms the Chord of the Major Ninth and Minor Third.—Examples of the Chord of the Major Ninth and Minor Third and its Inversions.—Combination of five Thirds forms Chord of Tonic Eleventh.—Called also Chord of Five and Four in the Minor Key.—Examples of the Chord of the Tonic Eleventh and its Inversions.—Combination of six Thirds forms the Chord of the Tonic Minor Thirteenth. Examples of the Chord of the Tonic Minor Thirteenth and its Inversions.—End of Tonic Series of Chords formed from the Minor Scale.

121. The Minor Scale provides a large number of chords which are constantly in use in music in a major key. The reason why they find their way into major movements is this: The dominant common chord of the minor is identical with the dominant common chord of the major; hence dominant discords of the minor scale can be either resolved on to a tonic having a major or minor third. Adopting the

modern minor scale, which differs from the tonic major only as to its minor third and minor sixth, the series of thirds will be this—

122. It will be found, as in the major scale, that the tonic and dominant each possess their own series of thirds, and also, that some of the notes concordant with the dominant are treated as discords when combined with tonic harmony, and some of the notes concordant with the tonic are treated as discords when combined with dominant harmony.

123. There is sometimes a difficulty in determining, when analysing some of the chords formed from the minor scale, whether tonic or dominant predominates in their nature. It is, of course, not a matter of opinion; but is to be decided by considering the treatment which such doubtful combinations receive at the hands of the great masters. If they are treated as tonic harmony, their name will be found by reckoning in thirds from the tonic; if as dominant harmony, from the dominant. This can always be determined by the chords on either side of the doubtful chord.

124. The first three notes of the minor series produce the minor common chord.

Ex. 65.

At * * Ex. 65 are the first and second inversions of the minor common chord of A.

125. The first four notes of the minor series produce the chord of the subtonic and minor third. This is one of those chords in which the tonic and dominant element are almost evenly balanced. When the treatment is evidently dominant, and the tonic is

omitted, it will be found under the series of dominant chords.

In the following examples it is a tonic chord, and is in most cases prepared, thus coming under the common name, "the chord of the suspended subtonic," but the first example given will show that it can be used with beautiful effect without preparation.

Ex. 66. BACH. *Passion Music.* Final Chorus.

126. At * Ex. 66 is the chord of the subtonic of C minor.

Ex. 67. MOZART. Symphony in D. No. 1.

127. At * 67 is the first inversion of the chord of the subtonic and minor third of D.

Ex. 68.

128. At * Ex. 68 is the second inversion of the chord of the subtonic and minor third of F.

Ex. 69. MOZART. Symphony in D. No. 1.

129. At * Ex 69 is the third inversion of the subtonic and minor third of B.

The subtonic of the minor key cannot descend, unless treated as a dominant note, because of the flattening of the sixth degree of the minor scale.

130. The next combination of thirds produces the chord of the major ninth and minor third.

Ex. 70. BACH. *Mass in B minor.* "Kyrie."

131. At * Ex. 70 is the chord of the major ninth and minor third of E, in its original position.

Ex. 71. MOZART. Symphony in D. No. 1.

132. At * Ex. 71 is the first inversion of the chord of the major ninth and minor third of B.

Ex. 72. SCHUBERT. Pianoforte Sonata in A. Op. 120.

133. At * Ex. 72 is the second inversion of the chord of the major ninth and minor third of F ♯.

Ex. 73. LEO. *Mass in D.* "Kyrie."

134. At * * * Ex. 73 are second inversions of the major ninth of D minor.

135. When the subtonic is in the bass, the minor third is generally displaced by the dominant seventh, and the chord becomes a purely dominant chord. The third inversion may be therefore passed over.

Ex. 74. HANDEL. Overture to *Messiah*.

136. At * Ex. 74 is the fourth inversion of the chord of the major ninth and minor third of E. Had this chord been followed by a common chord of F♯ major, the G would have been a dominant discord, but the retention of the upper notes B and G, while the bass moves downwards, points unmistakeably to a tonic derivation.

137. The next combination of thirds produces the chord of the tonic eleventh. It is commonly called the $\frac{5}{4}$ in the minor key.

Ex. 75. SCHUBERT. Pianoforte Sonata in A. Op. 120.

138. At * Ex. 75 is the original position of the eleventh of B minor.

Ex. 76. MOZART. Symphony in C. No. 4.

139. At * * Ex. 76 are chords of the eleventh of A minor, including the major ninth and subtonic, in their original position.

Ex. 77. BACH. *Passion Music.* No. 47.

140. At * Ex. 77 is the first inversion of the eleventh of B minor (first inversion of suspended fourth in the minor).

Ex. 78. BACH. Prelude and Fugue, B minor, for Organ.

141. At * Ex. 78 is the second inversion of the chord of the eleventh of B minor

When the seventh is used in the bass, as would be the case in the third inversion of this chord, the tonic element is generally discarded for the sake of smoothness, leaving the chord the first inversion of the minor seventh on the dominant.

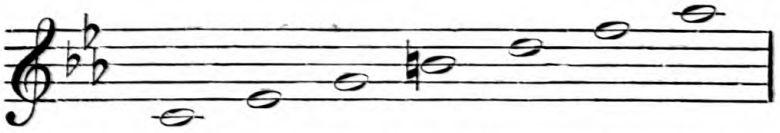
Ex. 79.

142. At * Ex. 79 is the fourth inversion of the eleventh of C minor, with the ninth.

Ex. 80. BACH. *Mass in B minor.* "Confiteor."

143. At * Ex. 80 is the fifth inversion of the chord of the eleventh of F ♯ minor.

144. The next combination of thirds produces the chord of the minor thirteenth on the tonic.



Ex. 81. BACH. *Mass in B minor.* "Kyrie."

145. At * Ex. 81 is the chord of the minor thirteenth of B minor.

Ex. 82.

146. At * Ex. 82 is the chord of the minor thirteenth of F ♯ minor, including the major eleventh and ninth.

Ex. 83. SCHUMANN. *Paradise and the Peri.* No. 10.

147. At * Ex. 83 is the first inversion of the minor thirteenth of B minor.

Ex. 84. MOZART. Symphony, No. 1.

148. At * Ex. 84 is the second inversion of the minor thirteenth of D minor.

149. The introduction of the subtonic in the bass of this chord is harsh; a purely dominant chord, therefore, usually takes its place, and the third inversion may be passed over.

150. The attempt to introduce the ninth in the bass will be found equally difficult; the fourth inversion, therefore, is as unlikely to come into use as the third.

Ex. 85.

151. At * Ex. 85 is the fifth inversion of the chord of the minor thirteenth of G minor, including the eleventh.

Ex. 86. BACH. Fugue for Organ in C minor. No. 6.

152. At * Ex. 86 is the sixth inversion of the chord of the minor thirteenth of G minor.

CHAPTER VII.

Dominant Series of Chords formed from Minor Scale.—Dominant Common Chord.—Combination of three Thirds forms the Chord of the Dominant Seventh in a Minor Key. Examples of the Chord of the Dominant Seventh in a Minor Key and its Inversions. — Combination of four Thirds forms the Chord of the Minor Ninth.—Its Importance.—The Reason for its frequent Appearance in the Major Key.—Omission of the Ground-note in its Inversions.—Examples of the Chord of the Minor Ninth and its Inversions resolving into Minor and Major Keys.—Combination of five Thirds forms the Chord of the Dominant Eleventh. —How distinguished from Dominant Eleventh of Major Series.—Like the Chord of the Minor Ninth it may be used in a Major Key.—Reason for the Omission of the first Inversion.—Examples of the Chord of the Dominant Eleventh and its Inversions.—Combination of six Thirds forms the Chord of the Dominant Minor Thirteenth.—When resolved into Major Key the Minor Thirteenth often ascends. Reason for Alteration of its Notation.—Examples of the Chord of the Minor Thirteenth and its Inversions.—Suspensions.—The supposed Distinction between Fundamental Discords, and Discords of Suspension.—Definition of Suspension.—The Use of the Term greatly limited.—Reason for so doing.

153. Next follows the dominant series of chords in the minor key. The first three notes give the common chord of the dominant.

Ex. 87.

154. At * * Ex. 87 are the first and second inversions of the common chord of E, having a major third because it is the dominant of A minor.

155. It is of importance to remember that the dominant common chord of a minor key is major, because through this chord, or chords of this series, of which it is the basis, are made those elegant fluctuations between the major and minor mode, so characteristic of modern music. The major third of the dominant being, as subtonic, capable of leading the harmonies into either mode.

156. The next combination of thirds produces the chord of the minor seventh in the dominant of a minor key.

Ex. 88.

157. At * Ex. 88 is the chord of the minor seventh of C♯, the dominant of F♯ minor.

Ex. 89.

158. At * Ex. 89 is the first inversion of the chord of the minor seventh of G, the dominant of C minor.

Ex. 90. BEETHOVEN. *Mass in C.*

159. At * Ex. 90 is the second inversion of the chord of the minor seventh of G, the dominant of C minor.

Ex. 91. MOZART. Symphony in G minor.

160. At * Ex. 91 is the third inversion of the chord of the minor seventh of G, the dominant of C minor. At † is the third inversion of the minor seventh of D, the dominant of G minor.

161. The next combination of thirds produces the chord of the minor ninth, the most important chord in modern music. From the major third of the dominant almost invariably forming part of it, this chord is as frequently followed by a chord of its tonic major as its tonic minor. In its inversions, the dominant itself, the ground-note, is nearly always omitted.

Ex. 92.

162. At * Ex. 92 is the chord of the minor ninth of E ♭, resolved on to its tonic major.

Ex. 93.

163. At * Ex. 93 is the chord of the minor ninth of C resolved on to its tonic minor.

Ex. 94.

164. At * Ex. 94 is the first inversion of the chord of the minor ninth of B ♭ resolved on to its tonic major.

Ex. 95.

165. At * Ex. 95 is the first inversion of the chord of the minor ninth of E, resolving on to its tonic minor.

Ex. 96. F. HILLER. *Nala and Damayanti.*

166. At * Ex. 96 is the second inversion of the chord of the minor ninth of B, resolved on to its tonic minor.

Ex. 97. MENDELSSOHN. Pianoforte Concerto. Op. 25.

167. At * Ex. 97 is the second inversion of the chord of the minor ninth of B, resolving on to its tonic major.

Ex. 98. MENDELSSOHN. *Elijah.* No. 5.

168. At * Ex. 98 is the third inversion of the chord of the minor ninth of D, resolving on to its tonic major.

Ex. 99. MOZART. *Requiem.* "Dies iræ."

169. At * Ex. 99 is the third inversion of the chord of the minor ninth of A, resolving on to its tonic minor.

Ex. 100. MOZART. Symphony in G minor.

170. At * Ex. 100 is the fourth inversion of the chord of the minor ninth of E, resolved on to its tonic major.

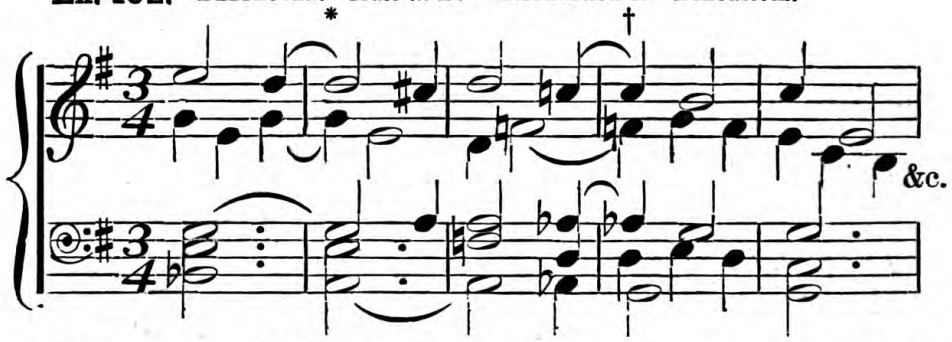
Ex. 101. MOZART. Symphony in G minor.

171. At * Ex. 101 is the fourth inversion of the chord of the minor ninth of D, resolving on to its tonic minor.

172. The next combination of thirds produces the chord of the eleventh on the dominant. This chord, like its predecessors in the

dominant series of a minor key, is often resolved into the major mode of its tonic. It is distinguished from the chord of the dominant eleventh of the major series, by including under it a minor ninth, instead of major.

Ex. 102. BEETHOVEN. *Mass in D.* Introduction to "Benedictus."



173. At * Ex. 102 is the chord of the eleventh of A with the minor seventh, but without the minor ninth, resolving on to its tonic minor. At † is the chord of the eleventh of G, including the minor ninth and seventh, but resolving on its tonic major. It will be thus seen that the chord may be followed by its tonic major or minor, without reference to the use of the seventh or ninth.

174. As would be expected, the eleventh and third, if heard together, would form a very harsh combination; the first inversion, therefore, which would have the third of the dominant in the bass, may be passed over.

Ex. 103. MOZART. Symphony in D. No. 1.

175. At * Ex. 103 is the chord of the eleventh of G, with the minor ninth and seventh, being part of a sequence which is worthy of careful examination.

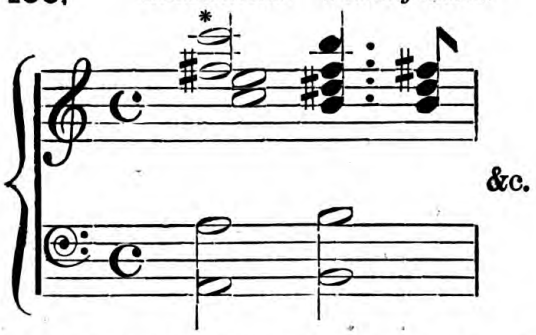
Ex. 104. HUMMEL. Pianoforte Duet, A ♭.

176. At * Ex. 104 is the second inversion of the chord of the eleventh and minor ninth and seventh of C, the note C being heard also.

Ex. 105. MENDELSSOHN. *Funeral March.* Op. 103.

177. At * Ex. 105 is the second inversion of the chord of the eleventh and minor seventh of E, without the minor ninth.

Ex. 106. MENDELSSOHN. *Wedding March.*



178. At * Ex. 106 is the third inversion of the chord of the eleventh, minor ninth, and minor seventh of B.

Ex. 107. SCHUMANN. Symphony in C.

179. At * Ex. 107 is the third inversion of the chord of the eleventh and minor ninth of B ♭.

Ex. 108. MOZART. Symphony in G minor.

180. At * Ex. 108 is the fourth inversion of the chord of the eleventh and minor ninth of B ♭.

Ex. 109. BACH. Motett. "I wrestle and pray."

181. At * Ex. 109 is the fifth inversion of the chord of the eleventh and minor ninth of C.

182. The next combination of thirds produces the chord of the minor thirteenth. This chord is also resolved on to the major tonic

as well as on to the minor tonic. In the former case the minor thirteenth generally ascends to the major third of the tonic. But, as it is a general custom to write ascending semitones with sharps, and descending with flats, the minor thirteenth often appears as an augmented fifth, *e. g.*—

It cannot be denied that this can be much more easily read than

the first requiring only one accidental, the latter two; but we must not suppose the apparent augmented fifth to be a major third of the subtonic, inasmuch as subtonic harmony rarely, if ever, precedes that of the tonic, and moreover, a dominant seventh is not unfrequently part of the chord, *e. g.*—

Ex. 110. SCHUBERT. Pianoforte Sonata. Op. 122.

183. At * Ex. 110 is the chord of the minor thirteenth of D, including the seventh.

Ex. 111. SCHUBERT. Pianoforte Sonata. Op. 42.

184. At * Ex. 111 is the chord of the minor thirteenth of G, including the minor ninth and seventh.

Ex. 112. Gounod. *Faust.* Introduction to Act. IV.

185. At * Ex. 112 is the first inversion of the chord of the minor thirteenth of B.

186. As the minor thirteenth of the dominant is the same note as the third of the minor scale, the minor thirteenth not unfrequently is retained until the tonic chord is heard, as in the following examples. (Compare § 108).

Ex. 113. J. Brahms. Rhapsodie. Op. 53.

187. At * Ex. 113 is the first inversion of the chord of the minor

thirteenth of G. At † is the first inversion of that of F, and at ‖ the first inversion of that of E ♭.

Ex. 114. GOUNOD. *Faust.* Introduction to Act IV.

188. At * Ex. 114 is the first inversion of the chord of the minor thirteenth of E, including the minor ninth and minor seventh.

Ex. 115. SCHUBERT. Pianoforte Sonata. Op. 53.

189. At * Ex. 115 is the second inversion of the chord of the minor thirteenth of G, the thirteenth remaining until the tonic chord is struck, as in Ex. 113.

Ex. 116. BEETHOVEN. Overture to *Coriolanus.*

190. At * Ex. 116 is the third inversion of the chord of the minor thirteenth of C.

Ex. 117. BEETHOVEN. Overture to *Coriolanus.*

191. At * Ex. 117 is the third inversion of the chord of the minor thirteenth of G, including the eleventh, minor ninth, and minor seventh; the eleventh displacing the major third of G.

Ex. 118.

192. At * Ex. 118 is the fourth inversion of the chord of the minor thirteenth of B.

Ex. 119.

193. At * Ex. 119 is the fifth inversion of the chord of the minor thirteenth of C.

Ex. 120. BEETHOVEN. Pianoforte Sonata, No. 3. Op. 10.

194. At * Ex. 120 is the sixth inversion of the chord of the minor thirteenth of A.

Ex. 121. SCHUMANN. *Paradise and the Peri.* No. 9.

195. At * Ex. 121 is the sixth inversion of the chord of the minor thirteenth of F ♯.

Ex. 122. MOZART. Symphony, G minor. *Minuet.*

196. At * Ex. 122 is the sixth inversion of the chord of the minor thirteenth of D, the third being omitted until the thirteenth is resolved.

197. It will probably have been noticed that suspensions have not had the important position assigned to them in this work which they usually hold in treatises on Harmony. Formerly discords were divided into two great classes, fundamental discords and discords of suspension. This system arose from two causes: first, because authors had come to an erroneous conclusion that certain discords being the intervals produced by a mathematical ratio, were specially entitled to be called fundamental; secondly, because it was found

that tonic discords (discords of the tonic series) were generally prepared, and it was hence supposed that they never could or would be used without preparation.

Whereas in fact, as far as mathematical ratios are concerned, equal temperament makes both tonic and dominant discords of equal importance, and the preparation of tonic discords was not a legal necessity but a mere habit now almost extinct. Finding, therefore, that the dominant series of discords were often used without preparation, and the tonic series nearly always with preparation, some authors constructed the following definition of a fundamental discord: —"A discord that can be used without preparation." Of course numerous instances of unprepared tonic discords were quoted by the unconvinced, to prove the badness of the definition, but all arguments, founded though they were on facts, were crushed by the remark that such progressions could only be written *by licence.* The attempts made in some works to distinguish between "fundamental discords," and "discords of suspension," and "discords" which ought to be of "suspension," but which *by licence* are "unsuspended," are more amusing than profitable. Again, some have drawn a distinction between a suspension and retardation, the former being a prepared discord resolved downwards, the latter a prepared discord resolved upwards.

198. A discord of suspension is defined as "a note or notes sustained from one chord into another, to which it or they bear no relation." If the list of legitimate chords, made of scale thirds, be borne in mind, it will be seen that the above definition prescribes very narrow limits to the use of the word suspension. It is only when a chord cannot be classified under the head of the tonic or dominant series of a major or a minor key, or under the chords produced by a combination of thirds from two scales, that we may call it a suspension, *e. g.*—

Ex. 123. SCHUMANN. *Song.* "Der Knabe mit dem Wunderhorn."

199. The two notes preceding the * Ex. 123 give the ear the impression of a chord of the major ninth and minor seventh of C♯, E♯ being the major third; but at * the E♯ is sustained during an unexpected chord of B, to the chords of which it bears no relation. This note is, therefore, a discord of suspension.

Ex. 124. BEETHOVEN. Pianoforte Sonata. Op. 26.

200. At * Ex. 124 the leading-note of the dominant has, as was the case in Ex. 123, been suspended into the second inversion of the tonic chord; but in Ex. 124 the tonic chord is minor.

201. In one sense, suspensions are chords derived from two scales, and if it be considered a simpler method so to explain them, the ground-notes of the notes suspended, and of the chord into which they are suspended, might be given as the two-fold derivation of the whole chord containing the suspension.

202. As a composer is at liberty to suspend any notes he may think fit, from one chord into another, an exhaustive list of discords of suspension is practically impossible.

203. When, after long habituation to the musical effect of a particular suspension, the ear has become ready to adopt the discord *without* preparation, such a chord must not be called a suspension *unsuspended by licence*, but must be treated as a legitimate combination of sounds which will come under the head of those chords spoken of in the following chapter.

CHAPTER VIII.

Chords formed by a Combination of Thirds taken from two Scales.—The Dominant Scale of a Minor Key.—Example of its use.—Second-Dominant a Ground-note. Three Forms of Chords from a two-fold Derivation.—Examples of each.—Example of the Introduction of a Note derived from Tonic, with those from Dominant and Second Dominant.—Another Chord derived from two Scales.—Its Preparation unnecessary.

204. It is now necessary to consider the nature and construction of chords derived from two closely allied scales. By far the greater number of such chords are formed from part of a minor scale combined with part of the scale of its dominant. But what is the dominant scale of a minor key? It has been already noticed that the third of the dominant is always major; it only remains, therefore, to speak of the second, sixth, and seventh degrees. Now, if the seventh be not raised and so made into a new subtonic, no modulation into the dominant of a minor key would be possible; and, if the seventh of the dominant be raised, the second of the dominant must be raised also, in order to form the chord of the dominant-of-the-dominant (hereafter to be called the second dominant); but, on the other hand, if the sixth of the dominant be raised, all trace of tonic minor scale disappears (the dominant sixth being the tonic third), this note therefore, must not be raised.

Example *a*.

The corresponding scale of the dominant of the above will therefore be

Example *b*.

An example will better explain the use of this last form.

Ex. 125. MOZART. *12th Mass.*

The above (Ex. 125) is a modulation from C minor (in which key the piece opens) into the dominant of C minor, and the notes used will be found to be taken entirely from the scales, just given in Examples *a* and *b*. The A ♭ in the first chord of Ex. 125 is part of the ordinary minor scale (Ex. *a*), the entry of F ♯, the subtonic of G (Ex. 125) denotes that the modulation into G is begun. A ♮ appears as the second degree of the dominant scale, but, on the other hand, the E ♭ is never raised, thus preserving the relationship of the dominant minor to its minor tonic.

Now on the same principles on which chords have hitherto been arranged and catalogued, a chord having an A ♭ and B ♮ (from Ex. *a*) must be part of the dominant series, and a chord having an F ♯ and C (from Ex. *b*) a part of the dominant series of that scale; but that scale is itself dominant, therefore the F ♯ and C will be derived from the second-dominant of C minor. Therefore, a chord containing A ♭, B ♮, C, and F ♯ is a chord derived from the dominant and second-dominant of C minor. If B ♮ appears in such a combination, C disappears. If C appears, B ♮ disappears. By far the most common form of the chord is that with the C and without the B ♮; because, as the chord is used as a means of modulation into the dominant, the minor seventh of the second-dominant (C from D) is an all-important element.

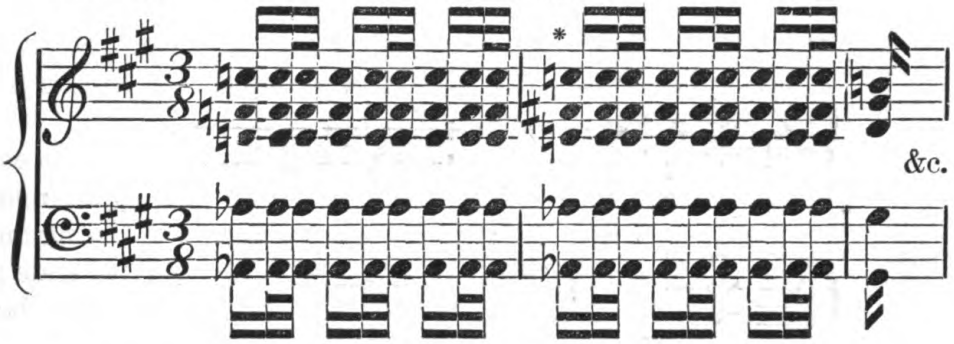
205. The word "supertonic," as meaning the dominant-of-the-dominant, has been here carefully avoided. Its use in this sense has already led to a large amount of misunderstanding amongst musical writers. The note in question derives no importance from its relation to the tonic, but only from its relation to the dominant; when writers, therefore, speak of supertonic roots, &c., &c., they use an expression not in itself clear, but from which all doubt may be removed, if only the term "second-dominant" be substituted for "supertonic."

206. The following three forms of this chord of twofold derivation are those most in use :—

No. 1 consists of the minor ninth of the dominant, with the major third and minor seventh of the second-dominant; No. 2 consists of the minor ninth of the dominant, with the second-dominant, its major third and minor seventh; No. 3 consists of the minor ninth of the dominant, with the major third, minor seventh, and minor ninth of the second-dominant.

No. 1 is only an incomplete form of No. 3, although considered by many a distinct form.

Ex. 126. BEETHOVEN. Symphony, No. 2.



207. At * Ex. 126 is the chord No. 1, derived from G and D, the dominant and second-dominant of C.

Ex. 127. ROSSINI. *Messe Solennelle.* "Gratias agimus."

208. At * Ex. 127 is chord No. 2, derived from E and B, the dominant and second-dominant of A.

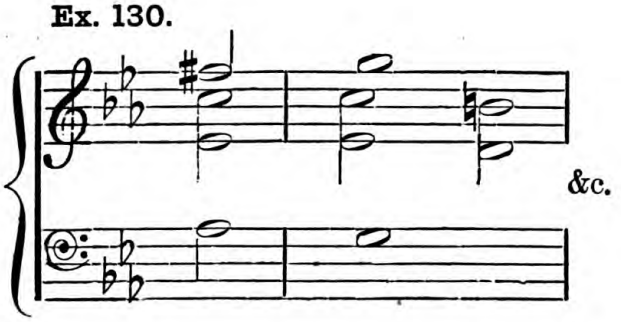
Ex. 128. MOZART. Symphony, G minor.

209. At * Ex. 128 is chord No. 3, derived from D and A, the dominant and second-dominant of G, the minor seventh of D being elegantly introduced into the melody.

Ex. 129. SCHUBERT. Symphony in C.

210. At * Ex. 129 is chord No. 3, derived from D and A. This example is given to show the direct resolution which involves consecutive fifths. Much vigour is lost by the ordinary resolution given in the following example, although the supposed fault of consecutive fifths is avoided.

Ex. 130.



Ex. 131. BACH. *Passion Music.* No. 25.

211. At * Ex. 131 is chord No. 2 in a different position. It is derived from C and G, the dominant and second-dominant of F.

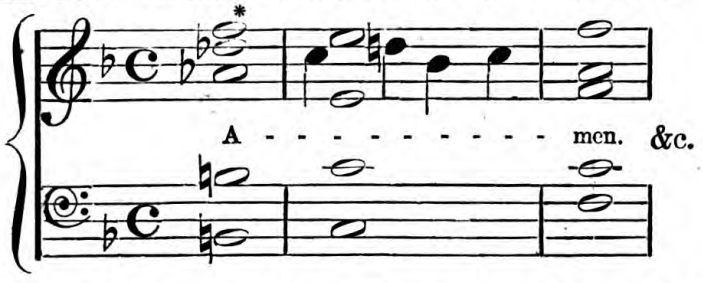
212. For the same chord in another position see ‡ Ex. 134, which is derived from G and D, dominant and second-dominant of C.

213. The form No. 3 is used in different positions.

Ex. 132. SPOHR. Calvary. No. 28.

214. At * Ex. 132 is one of the positions in which No. 3 occurs. It has the seventh of the second-dominant (C♯) in the bass. This is a direct resolution; but in consequence of the fifths being inverted, they are fourths, and therefore are not objected to.

Ex. 133. ROSSINI. *Messe Solennelle.* "Cum sancto spiritu."



215. At * Ex. 133 is another position of chord No. 3, derived from

C and G, the dominant and second-dominant of F. It has the third of the second-dominant in the bass.

216. Very rarely, the tonic is admitted into such chords as these, when startling or mysterious effects are required.

Ex. 134. GOUNOD. *Faust.* Act III.

217. At * Ex. 134 is a chord composed of the tonic C, its major third E, A ♭ the minor ninth of the dominant G, and F ♯ the major third of the second-dominant D.

Ex. 135. MOZART. Symphony, G minor.

Ex. 136.

218. At * Ex. 135 is a chord containing the minor ninth of D, the minor seventh of A, and the major third and fifth of E.

At * Ex. 136 the same chord is in a different position.

A chord derived from two scales, which is now in common use, must be noticed.

Ex. 137. HAYDN.

219. At * Ex. 137 the leading note of the scale has been heard with the subdominant chord.

Ex. 138. SCHUMANN. *Song*, "An den Sonnenschein."

220. At * Ex. 138 the leading note is again suspended into the subdominant chord, but accompanied by its third; that is, by the ninth of the subdominant.

Ex. 139. MENDELSSOHN. *Psalm* 42.

221. At * Ex. 139 only one note of a similar combination is prepared.

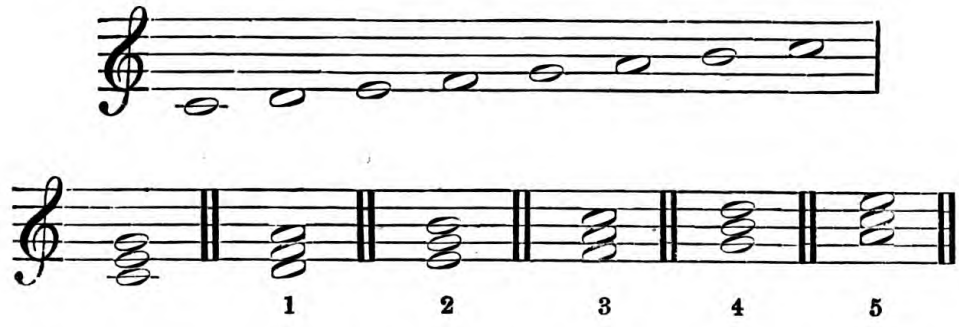
Ex. 140.

222. At * Ex. 140 neither of the notes are prepared. See § 203.

CHAPTER IX.

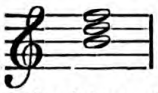
Relative Chords are derived from the Scale.—The Keys they represent are called Relative Keys.—Definition.—Relative Chords from Minor Scale.—Why their Use is limited.—What Chord may follow another.—Three Classes.—Examples of each. Use of the word Enharmonic.—Capability of Inversions of the Chord of the Minor Ninth for Enharmonic Change.—Additional Reasons for their Doubtfulness of Key. Outline of Modulation into various Keys by Means of the Inversions of the Chord of the Minor Ninth.—Chord of the Minor Sixth of the Subdominant Minor.—Examples of its Use in different Positions.—Examples of Suspensions into the Chord which follows it.—Example of a Note suspended into it.

223. It is now time to consider the laws which govern the progression of chords, but before doing so, it is necessary to ask how many common chords can be made out of the notes of a scale.



In addition to the common chord of the tonic there are here five other chords, which may be conveniently arranged thus:

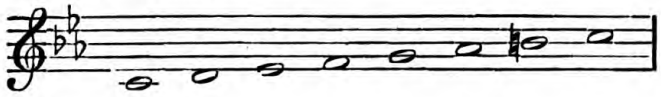
The common chord of the relative minor of the tonic (5).
" " dominant (4).
" " relative minor of the dominant (2).
" " subdominant (3).
" " relative minor of the subdominant (1).

224. The combination  has been omitted from the above series because, although it is called the "imperfect triad," it is, in reality, the first inversion of the chord of the minor seventh of the dominant, the dominant itself, the ground-note, being omitted.

225. These chords are called the relative chords of the tonic, and the scales of which they form part are called relative keys.

226. A relative chord, therefore, may be defined as "a common chord made up of notes of the tonic scale;" and a relative key as "a key whose tonic chord is a relative chord."

227. With regard to the minor scale:



the only common chords therein contained are—

Now if the tonic chord is followed by No. 3, it is really followed by the subdominant of the relative major; No. 3, is therefore less a relative key of the minor than of the relative major. A similar explanation of the succession of the common chords of C minor and B♭ may be given. The only chords then strictly relative to the minor key are those of its dominant and subdominant. As these two relationships are included in general terms in § 223, the treatment of the minor keys in connection with this subject may be omitted for the present. The chord No. 3 is, however, often used in other relations than those of the relative major.

228. It may now be stated that any chord may be followed—1st, by a chord of its own tonic or dominant series of chords; 2nd, by a relative chord, or a chord from a relative key; 3rd, by a chord which has one or more notes in common with itself.

229. The first of these three classes of progressions will be sufficiently illustrated by an examination of Exs. 1 to 140, special regard being given to the nature of the chord which precedes each discord.

With regard to the second class, the fact that a relative chord can follow any chord is too obvious to require any illustration, but it is not so evident that a chord from a relative key may follow a chord; the following examples are therefore appended :—

Ex. 141. BEETHOVEN. Symphony, No. 2.

230. The chord at * Ex. 141, which follows the tonic chord of D, is one of the dominant series of B minor, relative minor of D.

Ex. 142.

231. The chord at * Ex. 142 is one of the dominant series of A.

Ex. 143.

232. At * Ex. 143 the tonic chord is followed by a chord from the dominant series of the relative minor of its subdominant.

Ex. 144.

233. At * Ex. 144 the tonic chord is followed by a chord from the dominant series of the relative minor of the dominant.

234. The following passage from Beethoven will show plainly how a note or notes common to both can link two successive chords.

Ex. 145.

235. It must be remembered that the three classes of progressions do not always exclude each other.

236. The changing of the notation of a sound, while the sound itself remains unaltered in pitch, is called an enharmonic change; and a modulation produced by such a change, an enharmonic modulation. *e. g.*—

Ex. 146. MOZART. Symphony, E♭.

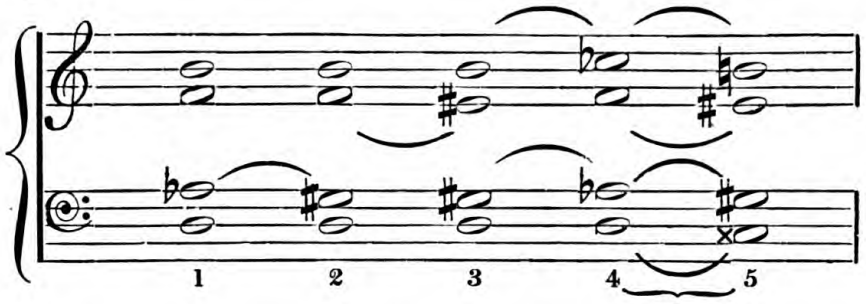
The notes connecting these two keys are E ♭ and C ♭, the same as D ♯ and B ♮.

237. It may be well to state here, in order to avoid any confusion in the use of the word "enharmonic," that an enharmonic scale is a scale which *contains* intervals less than a semitone, and an enharmonic modulation is a modulation which *excludes* intervals less than a semitone. It would be more correct to call an enharmonic modulation "a modulation by means of altered notation."

238. One chord is pre-eminently adapted to an alteration of notation: it is the chord of the minor ninth. In the inversions of this chord it must have been observed that the dominant on which it occurs is almost invariably omitted.

There are two reasons for this: 1st, If the dominant is introduced in an upper part, its presence destroys the beautiful combination of minor thirds of which the chord consists; 2nd, if the dominant is

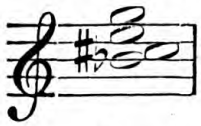
introduced at all, it dictates, as it were, a certain resolution, and so robs the chord of its peculiar and useful quality of doubtfulness of key.



No. 5 is merely a complete change of No. 4. It is therefore given as an alternative of No. 4.

No. 1 is derived from G, dominant of C.
No. 2 „ E „ A,
No. 3 „ C♯ „ F♯.
{No. 4 „ B♭ „ E♭.
{No. 5 „ A♯ „ D♯.

The dominants from which these chords are derived—



or using No. 5 instead of No. 4

themselves form an identical combination of minor thirds, C♯, E, G, B♭, or A♯, C♯, E, G.

It follows as a natural consequence that their tonics will have a like form, namely—

or using No. 5 instead of No. 4,

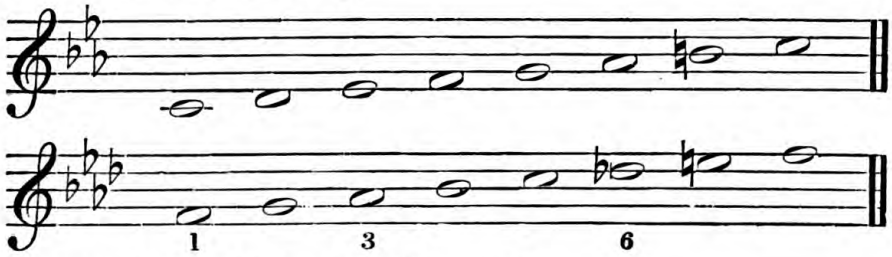
239. Thus not only is the chord itself of doubtful key, but the dominant and tonic ground-notes form a new chord of doubtful key. If, then, by the construction of a musical sentence the ear is led to associate a definite note as the ground-note of the minor ninth, that note being itself part of a similarly constructed combination, a composer is enabled still to modulate by change of notation. The extreme beauty of the chord no doubt arises from the fact that under

whatever notation it may appear, it is practically a combination of minor thirds: its great usefulness arises from the doubtfulness of its key. So common is it in all the works of great masters, that its compulsory disuse would destroy modern music—a fact which ought not to be forgotten by those who advocate an enharmonic scale, or who assert that voices and stringed instruments really use such a scale. Many works on Harmony give sketches of the modulation from this chord into various keys, similar to the following, in which the mere framework of the change of key is shown:—

Or by Altered Notation into C♯.
Into G♭.
Or by Altered Notation into F♯.
Into C♭.
Or by Altered Notation into B.
Into E.
Into A.
Into D.
Into G.

The modulation into the relative minors of these keys is equally simple, and can be worked out by the student, who will find numerous examples for imitation, in all good modern music.

240. There is a chord used generally in the minor key, the effect of which is so striking and the appearance of which so strange that it deserves special notice. It is derived from the minor scale of the subdominant of a minor key.



Whence (by combining 1, 3, 6), we get

Ex. 147.

The relationship of this chord * Ex. 147 to the scale of F minor is shown by its frequent use after a chord of that key, as in the following example:—

Ex. 148. MENDELSSOHN. Fugue for Organ, C minor.

241. It can be easily imagined that composers, when the chord was firmly established, would strive after new effects by using it in other positions.

Ex. 149. SCHUMANN. Symphony in C.

242. At * Ex. 149 is the common chord of the minor sixth of the subdominant of C.

Ex. 150. BEETHOVEN. *Mass* in D.

243. At * Ex. 150 is the common chord of the minor sixth of the subdominant of D.

Ex. 151. SCHUMANN. *Requiem.*

244. In bar 3 Ex. 151 are first inversions of the common chord of the minor sixth of the subdominant of B.

Ex. 152. HANDEL. *Joseph.* Chorus, "Thus one with every virtue crowned."

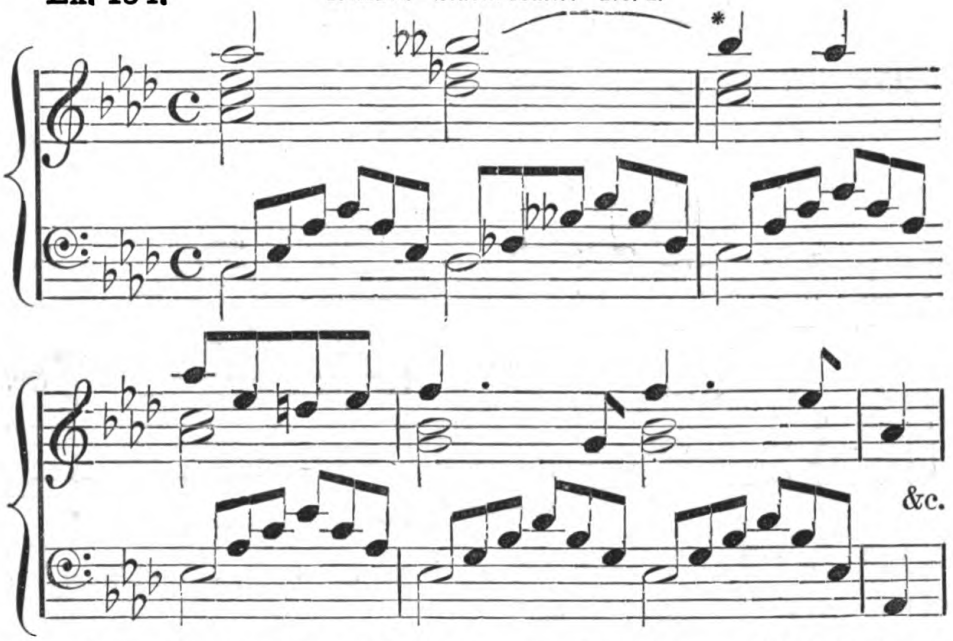
245. At * Ex. 152 is the second inversion of the common chord of the minor sixth of the subdominant of G.

Ex. 153. ROSSINI. *Messe Solennelle.* "Gratias agimus."

246. At * Ex. 153 is the second inversion of the common chord of the minor sixth of the subdominant of A, resolving into the tonic major.

247. Sometimes a note out of this chord is suspended into the chord which follows it, producing an unusual and beautiful effect.

Ex. 154. ROSSINI. *Stabat Mater.* No. 2.



At * Ex. 154 the minor sixth of the subdominant of A ♭ is heard with a dominant chord.

Ex. 155. BEETHOVEN. Pianoforte Sonata. No. 2. Op. 29.

248. At * Ex. 155 the minor third of the subdominant of A is heard with a dominant chord.

Ex. 156.

249. At * Ex. 156 the subdominant is suspended from the minor subdominant chord, into dominant harmony, forming a tonic eleventh.

250. Sometimes a note of the tonic chord is suspended into the minor subdominant chord.

Ex. 157. SCHUBERT. Pianoforte Sonata. Op. 42.

At * Ex. 157 the fifth of the tonic is held with the second inversion of the minor subdominant chord.

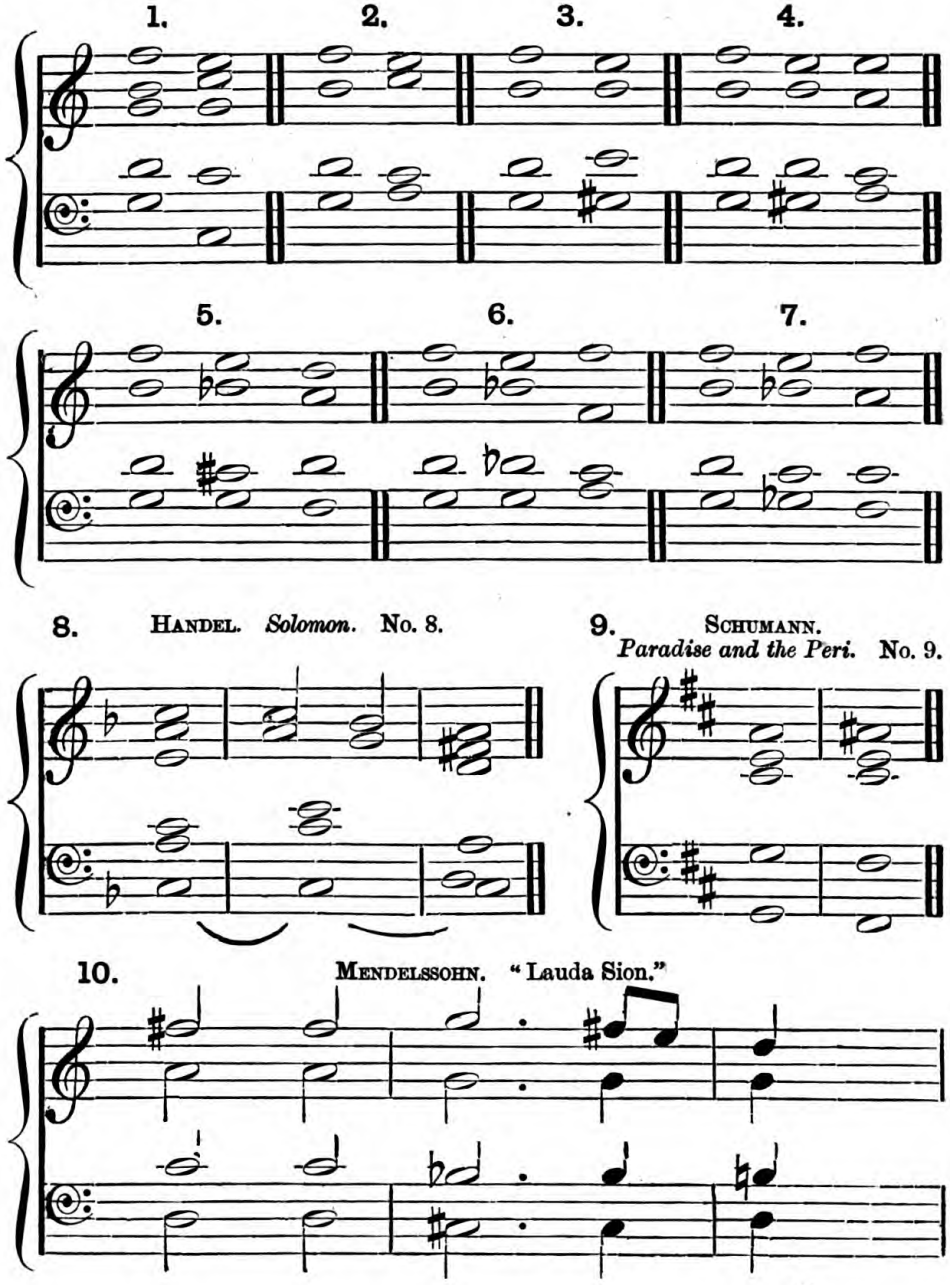
CHAPTER X.

Definition of a Discord.—Examples of various Resolutions of Dominant Seventh.—Their Classification.—The Ground-Notes of the Chords of Resolution.—The only limit to the Resolution of this Discord.—The omission of the Ground-Note gives freedom to the Resolution of a Discord.—Reason for omission of Ground-Note in Inversions of the Chord of the Minor Ninth.—Musical Progressions can hardly be said to be limited in number.—Possibility of smaller Divisions of the Octave being adopted as a means of creating a new Literature of Music.—Consecutive Octaves, when and why forbidden.—Consecutive Major Fifths should be used sparingly.—The common reason for their unpleasantness disproved.—Examples of Consecutive Major Fifths from great masters. Their Classification.—Movement of Parts.—Reason why Consecutive Major Fifths should be sparingly used.—The False Relation.—Examples of it.—Cadences.—Their Division into Perfect and Imperfect.—The Half-Close.—Interrupted Cadences not a Class.—Examples of Imperfect Cadences.—A Tonic Chord preceded by a Relative Chord, or the Dominant of a Relative Chord.—Further division of Cadences into Classes unnecessary.

251. A discord may be defined as "a chord which requires another to follow it before the ear is satisfied;" and a discordant note as "the note in a discord by the alteration of which the ear becomes satis-

fied." The movement of the discordant note to a satisfactory sound is called its "resolution," but the word resolution is also used to express the *chord* which removes the unsatisfactory effect of a discord.

For example, take the chord of the minor seventh, and see how it can be resolved, either on to a concord or on to a discord which, whilst resolving the discordant note itself, introduces a new combination requiring resolution.



11. HAYDN. *Creation.* "In native worth."

12. ROSSINI. *Messe Solennelle.* "O Salutaris."

13. ROSSINI. *Messe Solennelle.* "Sanctus."

14. BACH. *Passion Music.* No. 47.

15.

16. BACH. *Passion Music.* No. 38.

17. SCHUMANN. "Requiem."

18. BEETHOVEN. *Fidelio.* No. 16.

19. GOUNOD. *Messe Solennelle.* "Kyrie."

252. If viewed with reference to the resolution of the discordant note, these examples may be classified as follows:—

1. Where the discordant note descends to the semitone below. Exs. 1—9.
2. Where it descends a whole tone. Exs. 10—12.
3. Where it is transferred from one part to another. Exs. 13, 14.
4. Where it ascends one semitone. Exs. 15, 16, 17.
5. Where it is enharmonically changed. Ex. 18.
6. Where the resolution is elliptical. Ex. 19.

253. With regard to the ground-note of the chords of resolution, it will be seen that in Class 1 they are generally a relative chord, or the dominant of a relative chord. The same explanation holds good in Class 2. In Class 4 the discordant note is generally a minor seventh of the tonic, not of the dominant, and is raised to the leading-note to produce a tonic close.

254. It may be said therefore, that the chord of the minor seventh, though apparently more restricted than many other discords, may be followed by any chord of which the note of resolution is a component part, limited only by the laws of the relation of keys and of the progression of the separate parts of a chord.

255. In the examples just given, the ground-note has been included in the chord, but it may be now stated generally that if the ground-note of any discord be omitted, more freedom of treatment is obtained. (Compare § 238.)

256. But in those chords in which the ground-note is omitted, it will be noticed that a smoother combination is obtained without it than with it, *e.g.*—

257. Only a few of the possible resolutions of minor sevenths and ninths have been given in this work; there need be no fear, therefore, that the supply of musical progressions is likely to fall so short as to preclude original composition, especially bearing in mind what is said in § 238; and moreover, knowing that the same progression of actual notes may be thoroughly changed in character by its rhythmical position, melodic structure, and relation to neighbouring keys. The unwillingness of the public, and even of some musical critics, to admit any unusual progression, is at present the real limit to many a composer's invention. If at any future time a lack of diversity in music becomes a genuine complaint, no doubt mathematicians and mechanists will be ready to provide instruments capable of playing a scale with smaller divisions than a semitone, and so create the necessity for an entirely new musical literature. Such an event is far from impossible.

258. Consecutive octaves are forbidden in all cases where they simply weaken the harmony without reinforcing any theme specially requiring emphasis. It is evident that in a three-part piece of music, if two parts are frequently moving in octaves or unison, one of them is practically useless; but, on the other hand, any musical phrase, however short that phrase may be, can be *strengthened* by unison or octaves in writing for voices or instruments.

259. Consecutive major fifths should be used sparingly, as the effect of them when unskilfully handled is bad. The reason generally given for the prohibition of this progression is, that consecutive fifths suggest a succession of different keys. But this may be proved to be false in the following way.

An interval does not change its key by inversion. Therefore the succession of keys in the following passage—

will not be altered by inversion, and the same pleasant effect *ought* to be produced from this—

It is evident, therefore, that the cause of the unpleasantness of consecutive fifths, when they are unpleasant, must be sought elsewhere.

260. The following examples will shew when they may be used with good effect:—

1. BEETHOVEN. Pianoforte Sonata. No. 1. Op. 29.

2. HANDEL. *Messiah.* "Pastoral Symphony."

3. HANDEL. *Solomon.*
"Almighty power."

4. MENDELSSOHN. *St. Paul.*
"To God on high."

5. MENDELSSOHN. *St. Paul.*
"To Thee, O Lord."

6. SPOHR. Introduction to Part III. of *The Last Judgment.*

7. HAYDN. Symphony. No. 4.

8. MOZART. Symphony, No. 4.

9. MENDELSSOHN. *St. Paul.* No. 16.

10. SCHUMANN. *Luck of Edenhall.*

11. BEETHOVEN. Pastoral Symphony.

261. It will be noticed that the foregoing consecutive fifths may be classed under the following heads:—

1. Between passing notes. Exs. 1—5.

2. Between a succession of notes which, though part of a scale, are too essential to be called passing notes. Ex. 6.

3. Between a tonic chord and that of its relative minor. Ex. 8.

4. Between a tonic chord and that of its subdominant. Ex. 9.

5. Between a tonic chord and that of its dominant. Ex. 11.

6. By contrary motion. Ex. 10.

262. When two parts move in opposite directions, their motion is called contrary. When they proceed in the same direction, it is called similar. When one part remains stationary while the other moves, it is termed oblique motion.

263. In order not to multiply examples unnecessarily, none have been given of consecutive fifths between the harmonies in Classes 3 and 4 reversed, but they are not unusual.

It may be said that some of these progressions have found their way into the compositions through an oversight of the author. If it be so, the fact only proves that the ear does not always object to them.

No doubt, some will call them "licences." If licences are so unobjectionable, or rather so pleasing, the law ought never to have been made. Of course consecutive fifths *may* be objectionable, *e. g.*—

The use of them, even when they produce no bad result, should not be indulged in by the student of harmony too largely; as, unless desired for special effects, a smoother progression of the parts forming them may nearly always be found. To give an extreme case: if in a number of successive common chords each contain two parts moving in perfect fifths, it is evident that one of the two parts so moving has lost its power of forming a melody distinct from the one which it is following. It therefore comes under the same class of faults as consecutive octaves. (See § 258).

264. A "false relation" may be defined as "the separation of two notes of the chromatic scale caused by giving one to one part, and the other to another part." When one vocal or instrumental

part has both notes in succession, the false relation is avoided. The following example shows the bad effect which may be produced by such a progression:—

DR. CROFT.

The student may safely imitate such examples of false relation as are given below.

Ex. 1. BEETHOVEN. Pianoforte Sonata. No. 1. Op. 29.

Ex. 2. BEETHOVEN. *Mass in D.*

Ex. 3. MENDELSSOHN. *Variations serieuses.*

Ex. 4. HANDEL. *Solomon.* No. 20.

Ex. 5. BACH. *Passion Music.* No. 29.

In Exs. 3 and 5 the false relation is between the end of one phrase and the commencement of another. If the phrases are well marked, this rarely produces a disagreeable effect.

In Ex. 2 the progression of the violin part from F♯ to F♮ removes the apparent force of the melodic false relation. The study of the masterpieces of great authors will train the ear to distinguish between a good and bad 'false relation.'

265. The last progression in a musical sentence is called a Cadence or close. Cadences are of two kinds, Perfect and Imperfect.

266. When the final tonic chord is preceded by a dominant or subdominant chord, the cadence is perfect. In the former case, the cadence is called Authentic; in the latter Plagal. Cadences formed by the use of any harmony, not dominant or subdominant, immediately before the final chord, are imperfect. By "the imperfect cadence" is generally meant that half-stop formed by a tonic chord, followed by that of its dominant, *e. g.*—

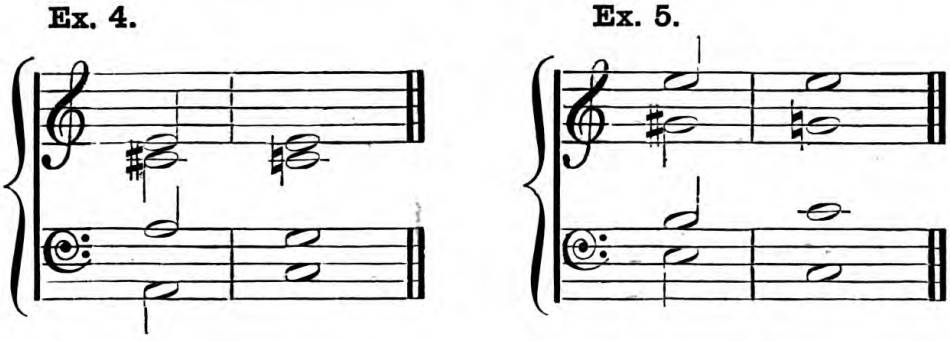
This is also called the "half-close" in opposition to the perfect, or "full close." A cadence is sometimes unexpectedly delayed or interrupted, but inasmuch as the final progression, when it does occur, can be placed under the head of perfect or imperfect, it is wrong to call interrupted cadences a species of cadence.

267. Imperfect cadences often consist of a tonic chord preceded by a relative chord. If the chords of the subdominant and dominant, which form part of a perfect cadence be omitted, the relative chords which are left for use are three, those of the relative minor of the subdominant, the relative minor of the dominant, and the relative minor of the tonic. (§ 223). An example of a cadence formed by each of these chords is here given:—

Ex. 1. **Ex. 2.** **Ex. 3.**

268. The dominant chords of Exs. 1 and 3 are also used, *e.g.*—

Ex. 4. **Ex. 5.**

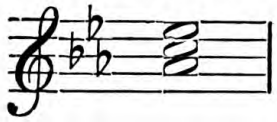


In Ex. 4 the final tonic chord is preceded by the dominant of the relative minor of the subdominant. In Ex. 5 the final tonic chord is preceded by the dominant of the relative minor of the tonic.

269. From the relative chords of the minor key cadences are used even for a close in a major key.

Ex. 6.

270. From the only remaining relative chord of the minor key—



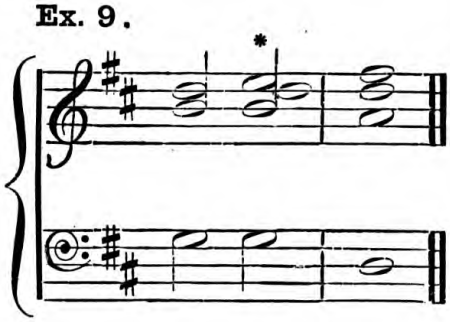
§ (227) the following cadence is formed:—

Ex. 7.

271. The following cadences are perfect cadences, because derived from the dominant of the key.

Ex. 8.

Ex. 9.



The chords marked * in Examples 8 and 9 are derived from A, the dominant of D, that in Ex. 8 being the third inversion of the chord of the major ninth (see § 99), that in Ex. 9 being the third inversion of the chord of the eleventh of A; the eleventh, though used as a sustained note, displacing the third. (See § 106).

Some authors discover half-a-dozen classes of cadences, but a moment's consideration will show how unnecessary such a division is.

CHAPTER XI.

Three facts accounting for many musical effects.—The Ear accustomed to trace the Scale, and to allow the Construction of Sentences on fragments of a Scale, and to bear with a note sustained through various Harmonies.—Passing-Notes, Sequences, and the Sustained-Note, thus explained,—The use of the word Passing-Note limited. —Definition of Passing-Note.—Auxiliary-Note.—A Sequence defined.—Diatonic and Chromatic Sequences.—Examples of each.—The Sustained-Note.—Its use in the upper, middle, or lower Parts.—Examples of each.—The Double and Triple Sustained-Note.

272. Many combinations as well as progressions of sounds seem almost inexplicable until the three following facts are known:—1st, That the ear is so accustomed to the succession of the notes of the scale, that it will tolerate such a succession, even when the notes have little or no relation to the harmony with which they are heard; 2nd, that a series of harmonies occurring over successive notes of the scale, or over a regularly recurring phrase made up of scale notes, may contain combinations which would not be borne with unless built on such a ground-work; 3rd, that a note may be sustained through a succession of chords, to which it is but slightly related, if only it starts as a part of a recognised chord, and if it be eventually legitimately incorporated into the harmony. From the first of the laws arises the consideration of passing-notes; from the second, of the sequence; from the third, of the pedal-point.

273. Probably no word has been so much and so wrongly used by severe musical lawgivers as the word "passing-note." Whenever a combination of notes existed which ought not to have existed, in their judgment; if the unrecognised discordant note happened to be, as it often of course must have been, between successive degrees of a scale, this note was termed a passing note, and the rest of the chord was taken into consideration without it. Thus it happens that even in some of the latest works on harmony, not a tithe of the chords really in use are catalogued; for, after a few supposed legal chords are announced ready for use, all other combinations (a vast array) are explained as containing "passing-notes," or as licenses; whereas any combination of sounds may claim examination as a real chord; and, with regard to licences, it may be stated once for all that in music there is no such thing as a licence; that which is pleasing, is right; that which is unpleasant, is wrong.

274. A "passing-note" shall be defined as "a note, which, in consideration of its position in a series of scale sounds, the ear will tolerate in combination with a chord to which it is not related."

This definition, if strictly adhered to, will be found not so widely applicable as that generally received. The series of chords built up of scale-thirds must of course have been searched through in vain, before any note can be pronounced to be unrelated to the chord in which it appears. It is also evident that in most cases the passing-note will be of shorter length than the combination with which it is heard, but this is not always the case.

BEETHOVEN. Symphony, C minor.

BACH. *Passion Music.* No. 36.

There are also chromatic passing-notes.

HAYDN. *Creation.* "Now vanish."

275. There is also a class of unessential notes which cannot rightly be called "passing" notes because a degree of the scale does not lie on each side of them. As is the case with passing-notes, they are most essential to melody, though unessential to the harmony. They are termed Auxiliary-notes.

BEETHOVEN. Sonata for Pianoforte and Violin. Op. 12. No. 2.

They often occur on the whole tone above or below the important note to which they are, as it were, attached, as well as on the semitone above or below. They may be defined as "notes not essential to the harmony, not introduced between two other degrees of a scale and occurring generally on accented portions of the bar."

276. A sequence is "the recurrence of a melodic or harmonic phrase on different degrees of the diatonic or chromatic scales."

The following examples will exhibit the difference between diatonic and chromatic sequences:—

Ex. 1 shows an ordinary diatonic sequence.

Ex. 2 shows an ordinary chromatic sequence.

Ex. 3 gives a diatonic sequence which contains combinations accounted for in § 272.

Ex. 4 gives a sequence in which a short phrase is repeated a whole tone above.

Ex. 5 gives a sequence in which a short phrase is repeated a semitone above.

Ex. 1. MOZART. Symphony in D.

Ex. 2. ROSSINI. *Stabat Mater.*

Ex. 3. SCHUMANN. *Paradise and the Peri.* No. 9.

Ex. 4. GOUNOD. *Faust.*

Ex. 5. **F. Hiller.** ***Nala and Damayanti.***

277. As the expression "pedal-point" leads many to suppose that it generally, if not always, is met with in the bass or lowest part in music, we will call it in future the "sustained-note." The sustained-note then, occurs in all parts of music high or low, and can be carried through unrelated harmonies subject to the proviso in § 272. It must not be thought that its use is limited to contrapuntal music or to fugues; on the contrary, numberless musical sentences in all styles can be found in which the sustained-note is heard, surrounded by various harmonies. It may be defined as "a note sustained through

harmonies to which it is not necessarily related, but which is eventually incorporated as an essential note."

Ex. 1. BEETHOVEN. *Mass in C.*

Ex. 3. MENDELSSOHN. *Antigone.* No. 5.

wail'd their fate: &c. Whose
&c.
blood, free from stain, First flow'd in each vein of the
an - cient E - rec - - - - - thi - dæ.

Ex. 3. SCHUMANN. Fugues on the word "Bach." No. 6.

ff
&c.

Ex. 1 of the preceding examples shows a sustained-note in the soprano chorus part incorporated into the harmony at the word "solus."

Ex. 2 shows a sustained-note in an inner part of the accompaniment, the voices independently finishing their melodic phrase.

Ex. 3 shows two consecutive sustained-notes in the bass, the first a fifth above the second; the second moving to a fifth below itself.

278. It will be found that the sustained-note is nearly always the tonic or dominant. These two are frequently sustained together.

MENDELSSOHN. *Songs without Words.* No. 5. Book 6.

279. Occasionally, also, chiefly for the production of a pastoral effect, the tonic, dominant, and second dominant are combined.

GOUNOD. *Song,* "Shepherd's Plaint."

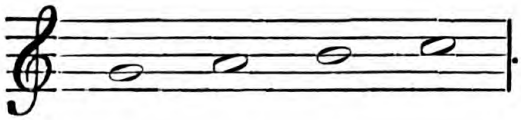
The student will find by a careful study of the great masters, that the three laws which have now been illustrated explain various difficulties, and point out to him a wide field for the exercise of his musical invention.

CHAPTER XII.

Modulation.—What establishes a new Key.—Laws of Modulation to be gathered from the form of the Scale.—The two Leading-Notes in the Major Diatonic Scale.—The force of one to keep a Progression in the Key, that of the other to lead out of the Key.—The upper half of a Scale therefore determines the Key.—This exemplified by Diagram of all the Scales, represented only by their upper half.—Important Maxim.—Explanation of common use of Dominant Discords.—Diatonic Modulation.—Chromatic Modulation.—Enharmonic Modulation.—Examples of each.—Modulation by making a note of one chord Leading-Note of a new Key.—Examples.—Modulation into the Key of the Major Third below.—Modulation into Key of the Major Third above.—Tendency to advance into more remote Keys.—Tendency to elliptical progressions.—Examples.—Simple Modulations sometimes assume an Enharmonic form.

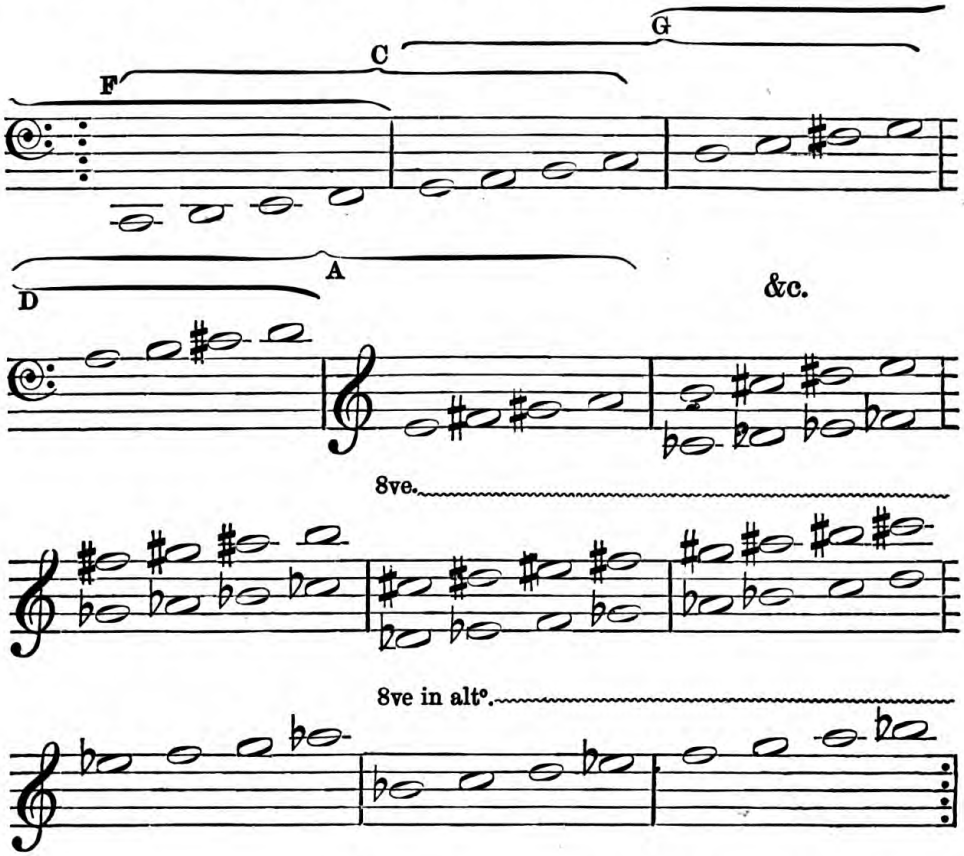
280. One of the most marked differences between modern and ancient music, is the constant variety of key in which musical phrases are now presented to us. The establishment of a new key is termed a modulation. The mere introduction of chords or progressions from unrelated keys, does not constitute a modulation: a cadence of such sort as will determine the new key, must be heard.

The theory enunciated in this work has been hitherto founded on the scale as in use, it will be well to turn to it again in the hope of finding from its construction or conventional use, some explanation of the laws of modulation.

281. On examination, this scale is found to consist of two similarly constructed halves and  . Looking at the second half,

the force of the leading-note or subtonic, will be at once recognised. Such important authority has modern music given to this note, that the second half of the scale is unquestionably the exponent of the key of C. Now, in examining the first half, which also contains a leading-note, and applying the same reasoning, it is found that a change is taking place into the key of F, a fifth below C.

Thus the diatonic scale contains two leading-notes, one of which has a tendency to preserve the existing key, the other to lead out of it. The results of this truth are so important, that it may be desirable to state it in a different form, thus :—

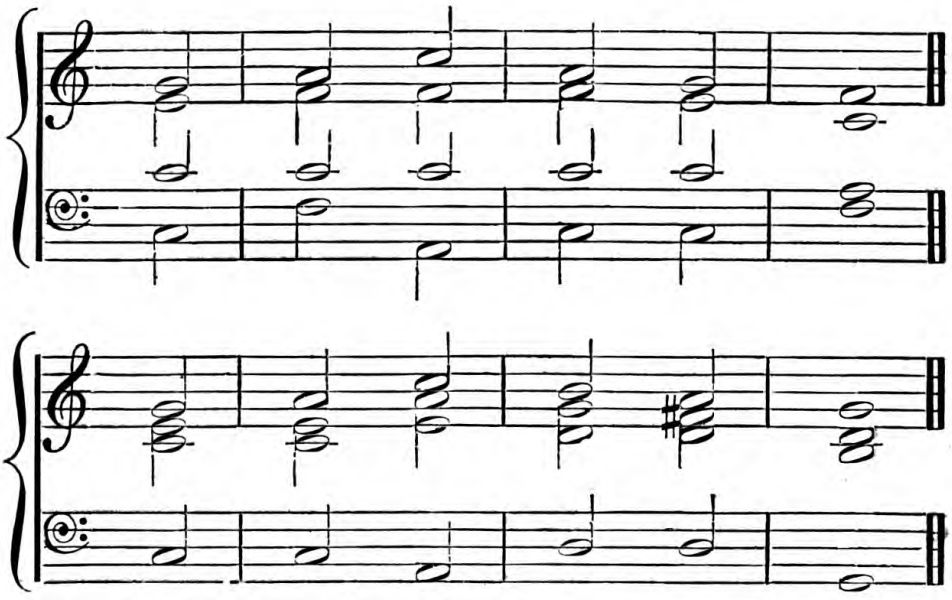


Drawing out a series of four notes as above, the scale gradually ascends through the whole of the possible keys, though each complete scale is represented by only one half of its constituent notes. *It is the upper half, therefore, which determines the key.* Thus the four lowest notes of the scale of G, represent a cadence in the key of C. And similarly the four lowest notes of the C scale determine the key of F. If, then, a modulation is to be made into the key

of the dominant, say from C into G, the *upper* half of the scale of G must be heard, namely, that which contains an F♯. But F♯ is accompanied naturally enough by a chord of D, which is the dominant of G, hence the well-known maxim, that to complete a modulation, the key must be entered through its dominant.

The major scale then, is provided with two leading-notes, one to keep music in the key, the other to lead out of it.

And therefore, if it be wished to modulate out of a scale without making use of notes foreign to that scale, the key of the fifth below is that most easily reached; because, in this case, a perfect key-determining cadence may be made by which to modulate into the fifth below; whereas new material is required to form a similar cadence into the key of the fifth above, *e. g.*:—



In the above examples a modulation into the key of the fifth below is shown, without the introduction of notes foreign to the original key, and next, a similar modulation into the key of the fifth above, in which it is necesssary to introduce a new note—F♯.

282. An explanation can now be given of the fact, that discords are more common on a dominant than any other ground-note. It is this: if it be required to keep in any key, the leading-note must be heard, but the leading-note is ordinarily accompanied by the dominant, therefore discords added to the dominant and leading note, have a tendency to remain in the key of their tonic. Their non-disturbance of the key, fully accounts for their frequent use,

and this quality they gain from their association with the leading-note and its accompaniment, the dominant.

The well-known statement that ground-notes or roots have a tendency to fall a fifth is now self-evident, it being known that discords most frequently occur on a dominant, and, of course, tend to resolve on to its tonic.

283. Modulation may be diatonic, chromatic, or enharmonic.

Diatonic modulation, is the passing through relative keys into a relative key.

Chromatic modulation is the passing through unrelated keys, into any other key.

Enharmonic modulation is a passing into unrelated keys, by means of a change of notation.

Ex. 1. BEETHOVEN. Sonata, "Pastorale."

284. The above (Ex. 1), is a specimen of diatonic modulation from D minor into the key of the relative minor of the dominant of F, the progressions having in passing, gone through the dominant and relative major.

Ex. 2. BEETHOVEN. Symphony, No. 1.

285. The above (Ex. 2) is a chromatic modulation from the key of D ♭ into that of C.

Ex. 3. ROSSINI. *Stabat Mater.* No. 4.

286. The above (Ex. 3) contains an enharmonic modulation from the key of A minor, to the key of D ♭, and *vice versâ*, by substituting

D ♭ for C ♯, after a doubtful chord, * Ex. 3, which suggests, but does not fully express the * Ex. 4.

Ex. 4.

287. It is evident, that in order to obtain a rapid modulation, it is only necessary to make any one note of the final tonic chord into a leading note of a new key, thus:—

Ex. 5.

Here G the fifth of C has been treated as the leading note of A ♭, and made a part of the dominant chord of that key, in accordance with the laws just laid down.

Ex. 6.

Here C has been treated as the leading note of D ♭, and made part of the dominant chord of that key.

Something has already been said of the E as a leading-note (§ 281) but it is worth while to notice that the use of the major third of

the tonic as the leading-note of the relative minor of the key of the major third below, has probably laid the foundation of that frequent interchange of the key of a tonic, and that of its major third below, which is so characteristic of modern music. Let the E in the chord of C be treated as the leading-note of F minor, and the result will be—

Ex. 7. CHOPIN. Impromptu in A♭.

which is the framework of the return from the key of C to A♭ (minor for variety) in the following Example (8).

Ex. 8. BEETHOVEN. Symphony, C minor.

288. A passing into the dominant of the relative minor and back again is the chief ingredient of many of the weak ballads which are greedily devoured by a tasteless public. For a good specimen of this form Donizetti's song, "Il segreto," may be examined. Sometimes this leads to the KEY of the Major Third of the Tonic.

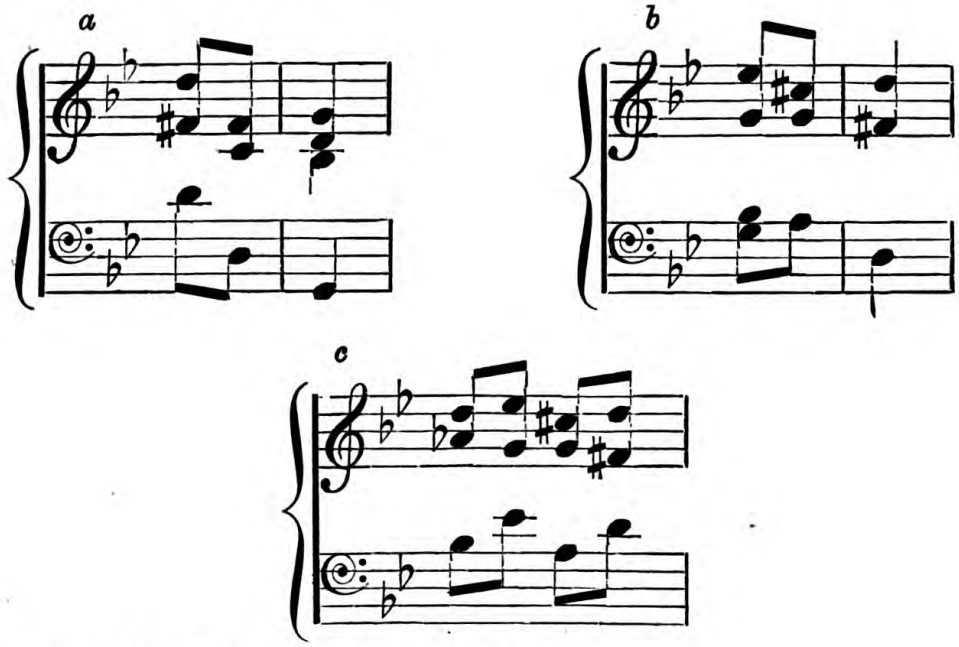
289. A slight acquaintance with the history of musical progressions is sufficient to shew that two tendencies, apparently, but not in reality, opposed to each other, are exhibited in their successive changes.

The first is, that when a progression has by usage become established—authors carry it one step farther, say, by introducing a chord derived from a ground-note a fifth higher, or a key with more sharps or flats.

The second is, that when a progression has by usage become established, the intermediate steps are often omitted, thereby giving

an air of freshness and originality to the musical sentence. It is impossible to allow space in this short work for a full treatment of so large a subject; one illustration of each must suffice.

290. In § 240, the "chord of the minor sixth of the subdominant" was discussed and it was shown that it is used in different positions. In the following example the most striking effect is produced by the introduction of the dominant minor seventh of this chord which is in turn used as the chord of the minor sixth of the subdominant of the *dominant*, not the tonic:—



Ex. *a* shows D as the dominant of G minor.

Ex. *b* shows the introduction of the "chord of the minor sixth of the subdominant" of D (dominant of G).

Ex. *c* shows the introduction of the dominant of the "chord of the minor sixth of the subdominant" of D.

Here is the sentence analysed above:—

Ex. 9. ROSSINI. *Stabat Mater.*

291. As to the elimination of the intermediate steps of a progression—

Ex. 10.

we see in the above Ex. 10, B, E, and A following each other in succession as ground-notes (see § 282).

Below is given the progression without the chord derived from E:—

Ex. 11. SCHUBERT. Pianoforte Sonata in D. Op. 53.

This progression is of common occurrence under various phases of notation.

292. We have before spoken of the close relation of the dominant of the relative minor, to the tonic key. Here is the elliptical progression from it to the tonic:—

Ex. 12. GOUNOD. *Messe Solennelle.*

the connection between B major and G being a chord of E minor. See § 268 Ex. 5.

In illustration of § 289 it may be well to quote a passage wherein the same progression as that above Ex. 12 (B to G) is used, but in which by the introduction of F ♮ the G is no longer a tonic chord, but the dominant of C. The progression is thus as it were pushed one step further.

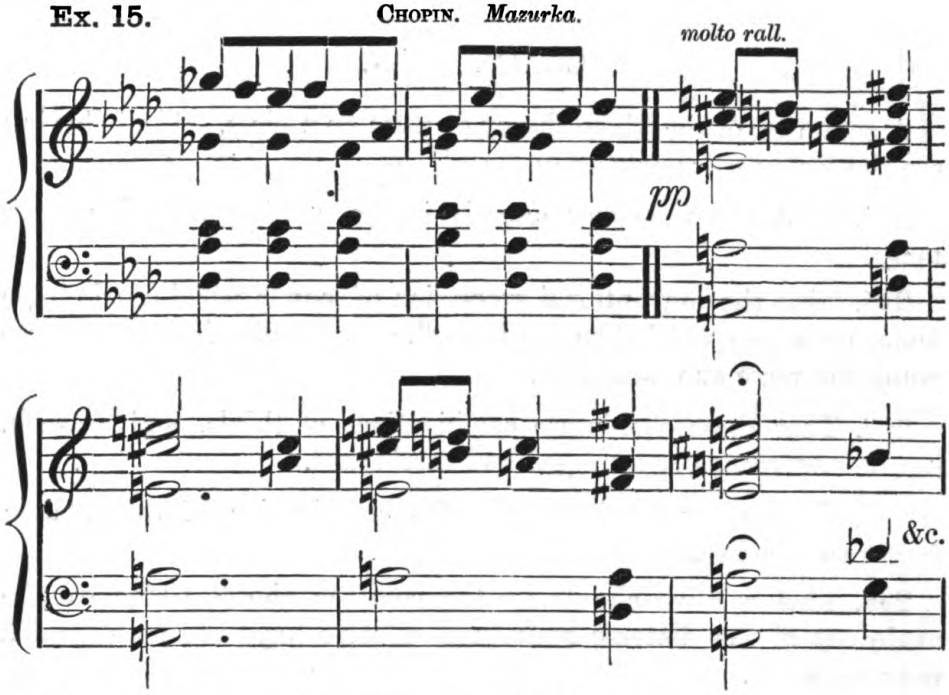
Ex. 13. SCHUBERT. Symphony in C.

But still more intermediate steps are eliminated in the following progression, Ex. 14, in which not only is the chord of C struck, which is only hinted at in the previous example, but to that chord of C is added a B ♭, making it suggest the key of F :—

Ex. 14. SCHUBERT. Symphony in C.

293. The ordinary antithesis of a key to that of its major third below, sometimes appears more complicated than it really is, owing to the necessity for an alteration of notation:—

Ex. 15. CHOPIN. *Mazurka.*



Ex. 16. SCHUMANN. *Song,* "Widmung."

The advanced student will find the analysis of the steps which in reality lie between many fine progressions and which are unconsciously supplied by the mind, a study as interesting as useful.

CONCLUSION.

A summary of the whole theory may not be useless. The following are the facts used for its ground-work :—

294. That the scale now actually in use consists of twelve semitones.

295. That the conventional succession of sounds called the diatonic scale, from its special form, leads to the formation of chords on two notes, the tonic and dominant.

296. That these chords are combinations of thirds, and as such, can be systematically arranged and catalogued.

297. That a few chords consist of a combination of thirds taken from two allied scales.

298. That relative chords are the common chords which can be made out of the diatonic scale, and relative keys the scales which they represent.

299. That the succession of chords is much influenced by this relation of key.

300. That the primary law of modulation derives its force from the two leading notes in the scale, the lower one leading out of the key, while the upper one restores to the key.

301. Incidentally it has been shown that there is no reason for calling one discord more "fundamental" than another.

302. That the term suspension is only legitimately applied to the sustaining of sounds of one chord into another belonging to a distinct scale-series.

303. That the art is perpetually striving to reach beyond the "conventional," and in consequence of this, that new combinations at first considered illegitimate are being from time to time recognised. That there are no fixed laws, and, consequently, no "licence" to break them.

304. That all discords, even of the most complicated kind, are as it were built round a common chord, and that the fundamental

note of this common chord is the note from which the whole chord is said to be derived—or, its ground-note or root.

305. Also, as the common chord, which is the nucleus of every chord, is either a tonic or a dominant chord, and as the tonic and dominant common chord of a major key and the dominant common chord of a minor key all consist alike of a note and its major third and major fifth, we must look always for the major third and major fifth of a note before it can be determined whether it is the ground-note. The only exceptions to this rule are discords of the tonic series of a minor key, and such discords as are derived from a double root, which, from having the minor ninth of the lower root, appear to have the imperfect fifth of the upper root, the upper root being always a fifth above the lower root. It will also be remembered that the eleventh produces a harsh effect when struck with the third, and also the thirteenth similarly clashes with the fifth. In chords of the eleventh, therefore, the third is most frequently (though not always) omitted, and the series runs 5, 7, 9, 11 in whole, or in part; and in chords of the thirteenth (the fifth being often omitted), the series runs 3, 7, 9, 11, 13 in whole or in part.

306. As a proof that the supposed necessity for the preparation of a discord has no foundation in fact, it need only be pointed out that musicians now listen to the sudden percussion of combinations of sounds which would have shocked their forefathers. It may also be reasonably expected that posterity will be habituated to chords which would now shock the ear of the most educated and liberal critic. Such considerations are far from useless; for by a careful analysis of the compositions of great masters, the student will readily discover in what direction he must look for new paths. A historical study of music will show him that only concords, or, rather, what were considered concords on supposed mathematical principles, were at first admitted into use. Next, though not without great opposition, and limited by severe legislation, that tonic and a few dominant discords were admitted under the name of suspensions; then, that the great masters having exhausted these in passing under the contrapuntal yoke, sought for variety by the introduction of a larger number of dominant discords, treated at first with all the reverence due to the earlier discords, but afterwards on account of their peculiar softness used with less compunction. Nearer our own times he will trace the manner in which dominant discords completely usurped tonic; and, lastly, by a conscientious criticism of those writers, whose works are

characterised by vigour and freshness, he will mark how a yearning after new effects has led them once more to reinstate tonic discords into their proper place, though neglecting the prejudices which formerly hindered their free treatment. The young composer who can thus map out before him his predecessors' material and how they used it, will be able to choose his own path. If he wishes to compose for the mart, a slightly manipulated reproduction of that refined use of dominant discords which has enervated a large amount of musical literature will be his most profitable employment. But, if he compose for the love of art, he will after a thorough acquaintance with the best works of great masters, commencing with the ageless giants, Bach and Handel, and ending with Wagner, search carefully for the new path, and strive after progress.

It cannot be denied that melody is more limited in expansion than harmony. Of course to a certain extent, this must be the case, inasmuch as harmony commands the almost unlimited *combinations* of sounds, while melody is restricted to the *permutations* of so many notes as are considered a convenient compass for a voice or instrument. Other limitations surround melody, amongst them notably rhythm. But such considerations should be a great incentive to the study of free harmony, inasmuch as a melody, simple or even commonplace, when taken by itself, may be so supported and surrounded by beautiful harmonies, as to appear a richly-set jewel. It is also worth remarking that there is heard by the educated musician when listening to fine successions of chords, a melody none the less real because difficult to describe, which leaps as it were from chord to chord, and imparts a much higher pleasure than is obtained from the contemplation of that bare outline, called the "tune."

But be it understood that harmony is to be used for the purpose of beautifying melody, not of superseding it; and after an unfettered study of chords and progressions, the student will find himself quite as able to appreciate and love a melody as when in his uneducated state, the melody was the only part which appealed to his ear.

When the interesting study of harmony has been thoroughly traversed, and the student finds in music a rich source of intellectual pleasure, even then he stands but on the threshold of the art. Out of the many subjects still to be explored, which he will find lying before him, that of "Form" is the most important, including under it, as it does, melody itself, and it is to be regretted that he will look in vain for any trustworthy guide to direct his steps through its wondrous complications.

APPENDIX.

FIGURED BASS.

A good system of musical shorthand is much required. In the days when comparatively simple progressions were used, the system of adding to a bass part, figures which should indicate the intervals contained in the accompanying harmonies, answered all general purposes. But the complications of modern music become still more complicated to the eye when an attempt is made to write them down in figures, because the figure can only as a rule show the interval to be used, not the part which is to have it, and in modern music many progressions only become possible by a particular arrangement of the chords between the different parts.

But this very imperfection of the art of figuring, as a shorthand, renders it exceedingly useful as a means of giving exercises to a student. The intervals indicated give a general notion of the contents of a chord, while the actual movement of the parts remains undecided, and left to the student's judgment.

1. Figures have no connection whatever with the actual or possible derivation of a chord.

2. Intervals are reckoned from the bass note respectively.

3. The highest number is placed uppermost; the next high number below it, and so on.

4. Compound Intervals are considered Simple, with the exception of those resolving on to an 8 or octave.

5. Every bass note without figures is to be harmonised with its own common chord in its original position.

6. Every bass note not having a 4 or 2 against it, is understood to be accompanied with a 3.

A $\frac{4}{2}$ or $\frac{4}{3}$ implies the addition of a 6.

A 4 followed by a 3 (4 3) implies the addition of a 5.

A 7 or 9 alone implies a $\frac{5}{3}$ also.

7. An Accidental standing by itself implies the alteration of the third of the chord.

8. A stroke through a number indicates that the interval is to be raised, *e. g.*—6 5 4 3 2; but accidentals may be placed by the side of the figures instead. Thus: ♯5, ♮4.

9. Where the numbers have no accidentals attached, or are not crossed through, the intervals are in accordance with the signature.

10. In a chord containing an augmented or diminished interval, two accidentals are sometimes given, although one note of the interval may not require alteration on account of the signature.

11. Lines — = = signify that the previous intervals are to be retained notwithstanding the movement of the bass part, but they need not necessarily be retained by the same part.

12. The accompaniments may move during a bass note, if no intervals are introduced which are not authorized by the figuring.

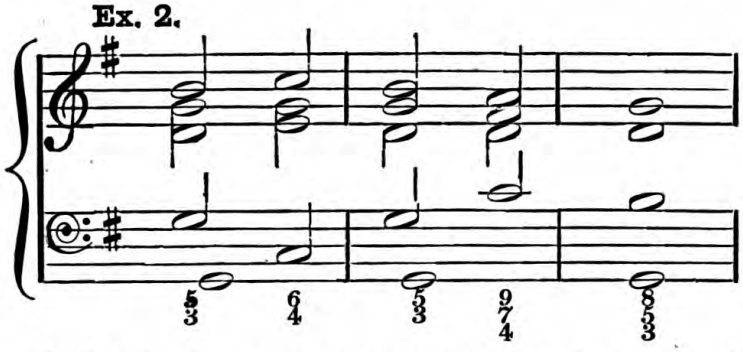
13. When more than one chord occurs on the same bass note, common chords must be figured.

The following thirteen examples are given as illustrations of the scope of the above rules.

Ex. 1.

Of the chords figured $\frac{6}{5}$ in this example, the ground-note of the first is B ♭, of the second B ♭, of the third G. The first is a chord of the ninth, the second a chord of the seventh, the third a chord of the eleventh.

Ex. 2.



Although the chords move over a sustained note, the numbers are reckoned from that note, not from the bass of the moving chords.

Ex. 3.

The figure 9 is placed uppermost, because a larger number than 7, although in the harmony the seventh is heard above the ninth.

Ex. 4.

The number does not limit the use of the interval to any special pitch.

Ex. 5.

No figures are required here.

Ex. 6.

The 6 and $\frac{6}{5}$ imply a 3, the $\frac{4}{3}$ and $\frac{4}{2}$ a 6, the 4 3 a 5, the 7 and 9, $\frac{5}{3}$.

Ex. 7.

In adding upper parts to a figured bass, the accidentals indicated below the bass must be marked in the harmony.

Ex. 8.

The sign 6 is in common use; either ♯4 or 4 might have been used.

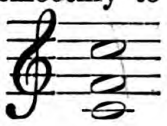
Ex. 9.

In the third chord of this Example the 6 and 3 are flat, in accordance with the signature, similarly the 5 in the $\frac{6}{5}$, and the 3 in the unfigured chords.

Ex. 10.

Although the F in this Example is sharp, by the signature; yet the sharp fourths are marked in the figuring, one being part of an augmented interval, the other of a diminished interval.

Ex. 11.

The harmonies thus added to a moving bass sometimes require a special arrangement of the parts, so as to adapt them smoothly to the unaccented bass. Thus, it would have been harsh if  had been used in the second bar.

Ex. 12.

This alteration of the upper parts, besides giving more interest to the melody and harmony, allows the position of chords to be changed when it becomes cramped.

Ex. 13.

The $\frac{5}{3}$ has been thus figured because $\frac{6}{4}$ is on the same bass note. The 8 precedes the 7 to show that that note in the chord occupies part of the bar before proceeding to the 7.

Before leaving the subject of "figured bass," it will be useful to point out that a system of nomenclature for chords of a simple nature has been derived from the figures placed under them. Thus, the chord "$\frac{6}{5}$" is made to signify generally the first inversion of the chord of the minor seventh; the chord of $\frac{6}{5}$ on the sub-dominant, that of the third inversion of the chord of the dominant eleventh; the chord of $\frac{6}{5}$ on the supertonic, that of the second inversion of the chord of the major ninth of the dominant; the chord of 7 on the leading note, that of the first inversion of the major ninth; the triad of the leading note, the first inversion of the chord of the minor seventh, without the ground-note. The faults of this system are obvious; for before a chord can be described, first, the numerical value of the component intervals has to be found; next, the relation of the lowest note of the chord to a given scale determined; but when all this has been done, the *derivation* of the chord has still to be found. Such a system is absolutely useless, if the context does not supply ample proof as to what degree of the scale the bass note of the chord happens to fall on; and, in cases of doubt, only a knowledge of the derivation can give this information. This system, therefore, necessitates a previous knowledge of some other arrangement of chords before they can be properly classified. It will be well also to avoid such names as the chords of the Added, French, German, Italian, Neapolitan, Sharp sixths, &c., because, as these names are given to chords not in their original position, the inversions must be reckoned, not as is simplest, from the ground-note, but from that note which happens to be the bass of the position to which the useless name has been attached.

Little more need be said on the subject of "figured bass," except, perhaps, to warn the student against expecting to find exercises interesting as specimens of musical composition. No schoolboy ever yet had much personal interest in the history of Balbus, nor must the enthusiastic musician hope to be moved to delight by the soulless pages which follow.

EXERCISES.

EXERCISES.

ON THE COMMON CHORD AND ITS INVERSIONS.

Exercise 1. (*Two inner parts to be added.*)

Exercise 2.

EXERCISE 3.

EXERCISE 4.

EXERCISE 4.

EXERCISE 5. (*Three upper parts,* two Trebles and Tenor, *to be added.*)

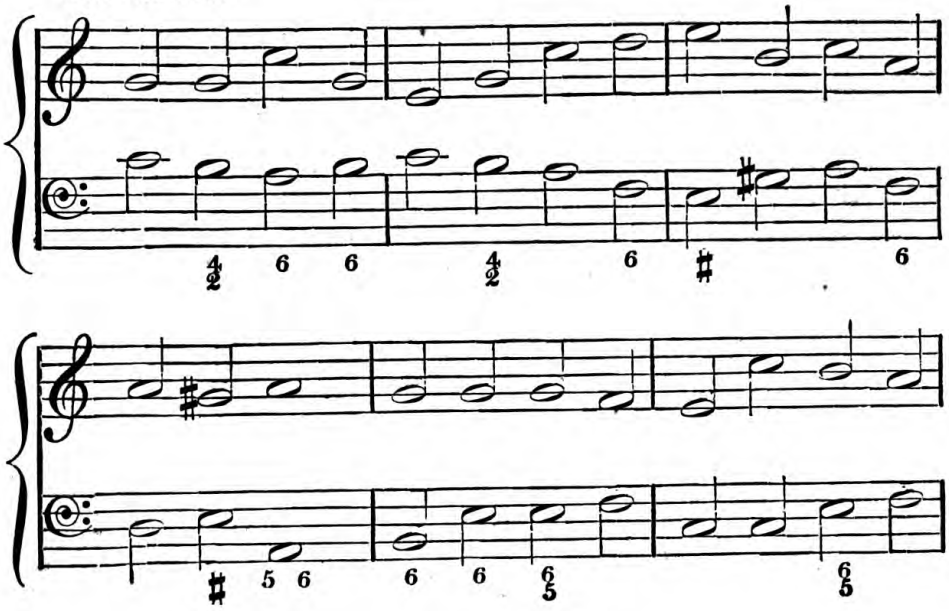
EXERCISE 6.

EXERCISE 7.

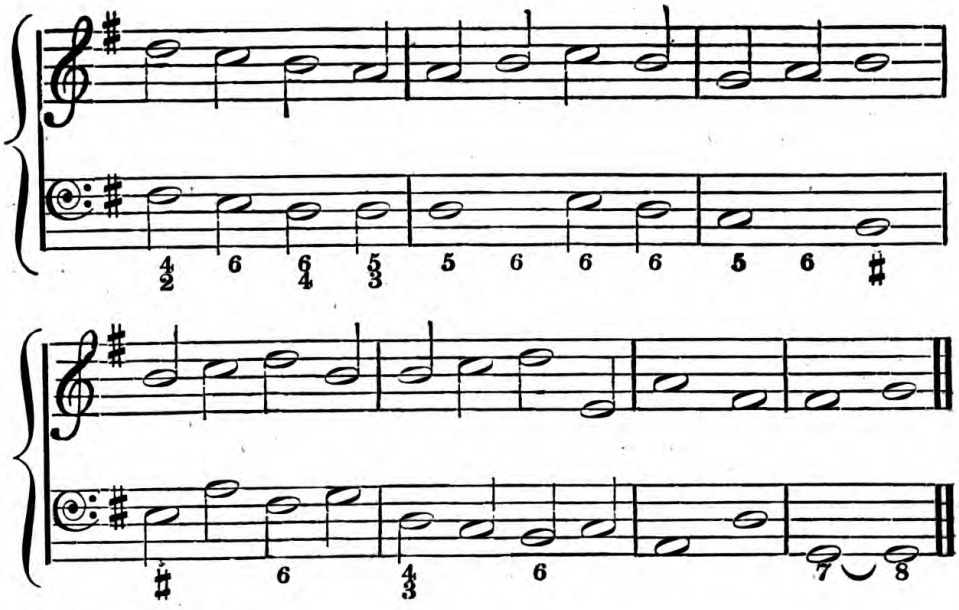
EXERCISE 8.

ON THE CHORDS OF THE MAJOR SEVENTH AND SUSPENDED SUBTONIC.

EXERCISE 9.



EXERCISE 10.

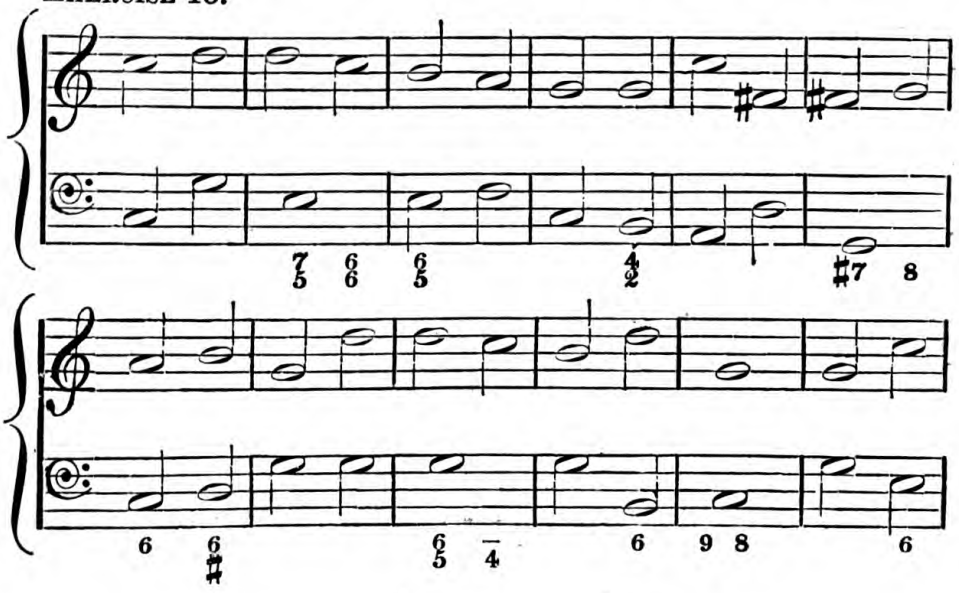


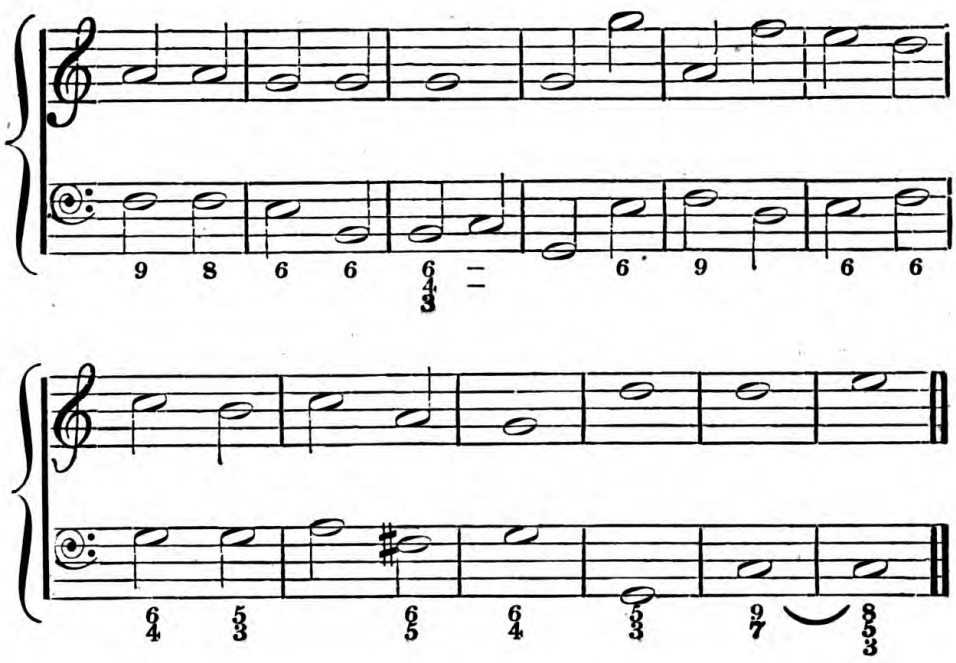
EXERCISE 11.

EXERCISE 12.

ON THE CHORD OF THE MAJOR NINTH OF THE TONIC.

EXERCISE 13.





Exercise 14.

EXERCISE 15.

To commence with this disposition of the upper parts:

ON THE CHORD OF THE TONIC ELEVENTH.

EXERCISE 16.

EXERCISE 17.

EXERCISE 18.

ON THE CHORD OF THE TONIC MAJOR THIRTEENTH.

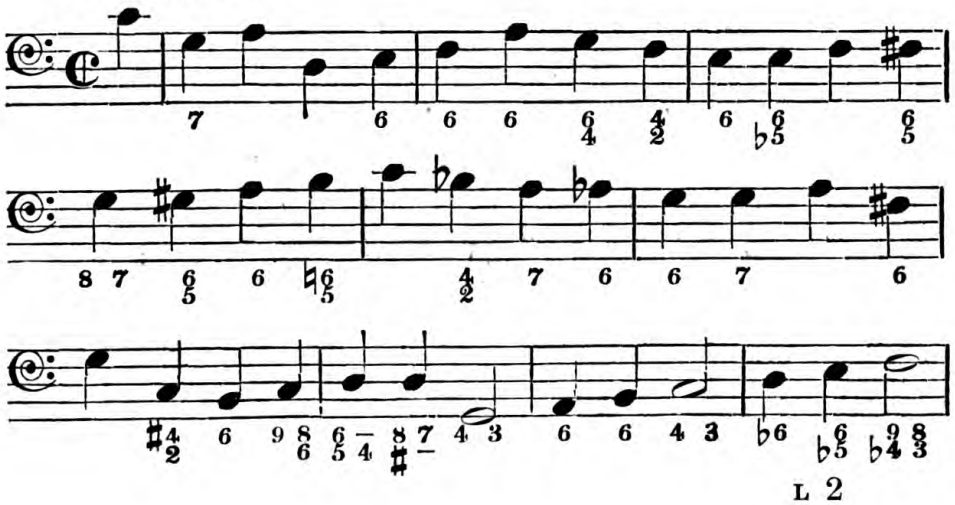
EXERCISE 19.

EXERCISE 20.

ON THE CHORD OF THE MINOR SEVENTH.

EXERCISE 21.

EXERCISE 22.



EXERCISE 23.

EXERCISE 24.

Exercise 25.

ON THE CHORD OF THE DOMINANT MAJOR NINTH.

Exercise 26.

Exercise 27.

EXERCISE 28.

ON THE CHORD OF THE DOMINANT ELEVENTH.

EXERCISE 29.

EXERCISE 30.

EXERCISE 31.

† The third (in the Tenor) can be sustained through the following six chords, if the Treble begins the phrase on the upper F.

ON THE CHORD OF THE DOMINANT MAJOR THIRTEENTH.

EXERCISE 32.

Exercise 33.

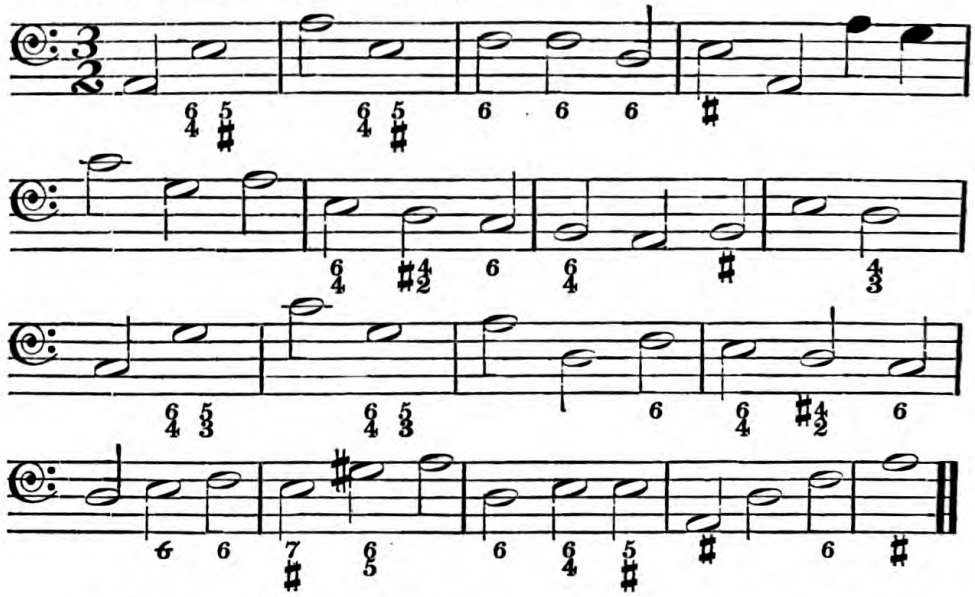
Exercise 34.

EXERCISES ON CHORDS DERIVED FROM MINOR SCALES.

THE MINOR COMMON CHORD AND ITS INVERSIONS.

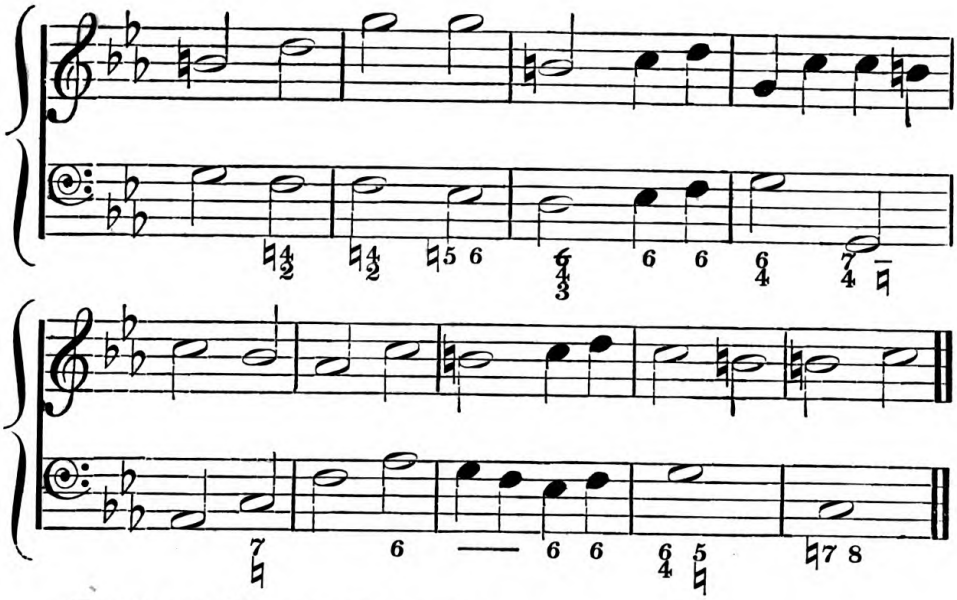
EXERCISE 35. (*In Five Parts*).

EXERCISE 36. (*In Six Parts*).



ON THE CHORD OF THE SUBTONIC AND MINOR THIRD.

EXERCISE 37.



EXERCISE 38. (*In Five Parts.*)

EXERCISE 39.

ON THE CHORD OF THE MAJOR NINTH AND MINOR THIRD.

EXERCISE 40.

EXERCISE 41.

EXERCISE 42. (*In Three Parts*).

ON THE CHORD OF THE ELEVENTH OF THE MINOR KEY.

EXERCISE 43.

EXERCISE 44.

Exercise 45.

ON THE CHORD OF THE MINOR THIRTEENTH ON THE TONIC.

Exercise 46.

EXERCISE 47. (*In Five Parts*).

* Without fifth.

† Ninth in the melody.

EXERCISES ON THE DOMINANT SERIES OF CHORDS IN THE MINOR KEY.

ON THE CHORD OF THE DOMINANT SEVENTH IN THE MINOR.

EXERCISE 48. (*In Six Parts.*)

* Ninth in the upper part, with Seventh immediately below it.

ON THE CHORD OF THE MINOR NINTH.

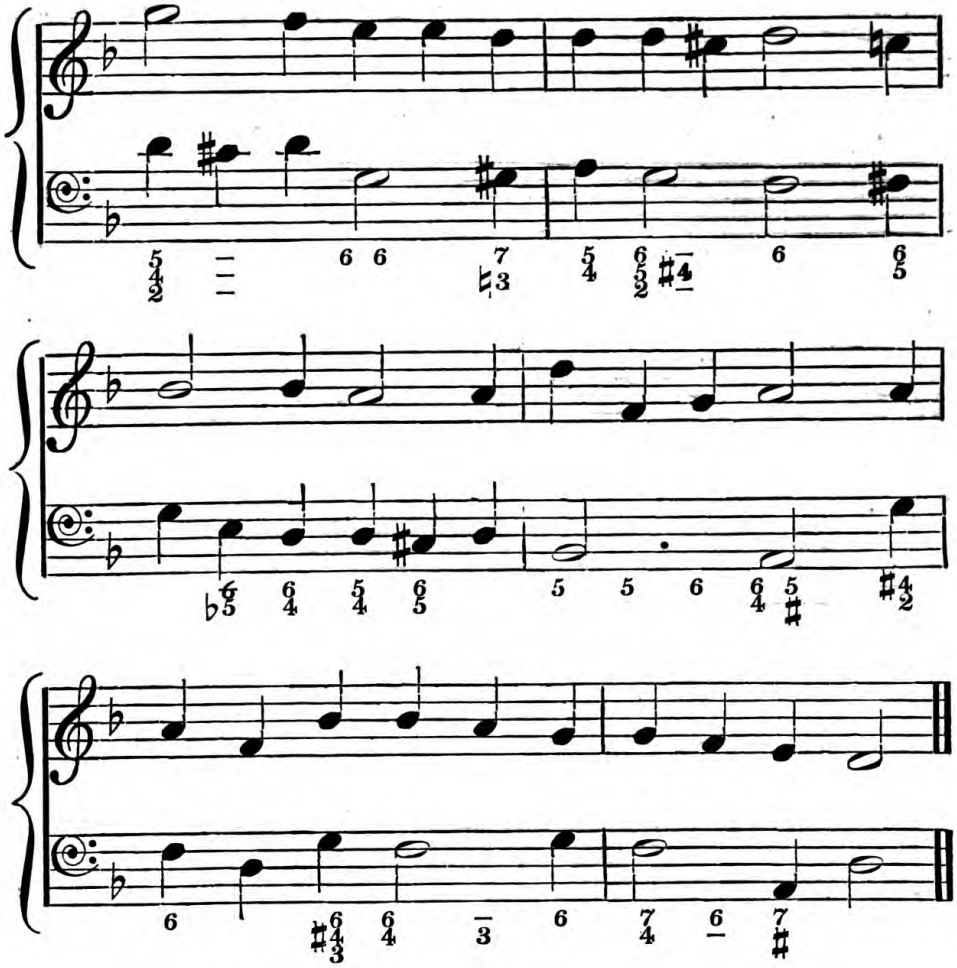
EXERCISE 49.

EXERCISE 50.

EXERCISE 51.

ON THE CHORD OF THE ELEVENTH ON THE DOMINANT OF A MINOR KEY.

EXERCISE 52.



EXERCISE 53.

ON THE CHORD OF THE MINOR THIRTEENTH OF THE DOMINANT.

EXERCISE 54.

EXERCISE 55.

ON CHORDS DERIVED FROM TWO SCALES.

EXERCISE 56.

EXERCISE 57.

EXERCISE 58.

ON THE CHORD OF THE MINOR SIXTH AND MINOR THIRD OF THE SUBDOMINANT.

EXERCISE 59.

* The fourth in the upper part.

EXERCISE 60. (*In Five Parts*).

QUESTIONS FOR EXAMINATION.

CHAPTER I.

What is the difference between a musical Sound and a Noise? § 1.

In what respects do Sounds differ from each other? § 2.

What causes difference of Pitch? § 3.

What is the use of a Stave? § 4.

How is Pitch determined absolutely? § 5.

Which C Clef is in most common use; and why should it be retained? § 6-10.

For what is the Alto Clef used? § 7, 8.

For what is the Bass Clef used? § 9.

How does a dot affect a note? What is the effect of a double dot? § 13.

What is the use of a Metronome? § 14.

Define "Accent," "Bar," "Double Bar," "Rhythm." § 15, 16.

Define "Time." Give the subdivisions of Duple and Triple Time. § 17.

How is the pace of music approximately determined, and how is intensity of Sound regulated? § 17.

CHAPTER II.

Define "Octave." § 18.

Into how many parts is an Octave divided? § 19.

What is a Degree? § 19.

Define "Scale." § 20.

What is a Chromatic Scale? § 21.

What is a Diatonic Scale? Explain the origin of the Normal Scale. § 22.

Why are Sharps and Flats necessary? § 23.

What is the "Signature"? § 24.

What is an Accidental, and how far does its influence extend? How is a Double Sharp contradicted? § 25.

Give the Minor Scale in different forms: and explain the construction of the modern form. § 26.

Distinguish between a Relative Minor and a Tonic Minor. § 27.

Define "Interval." Give rules for the reckoning, with explanation. § 28.

Where are Intervals in their normal state to be found? § 29.

What confusion of terms arises from the common classification of Intervals? § 29.

What changes do Intervals undergo? § 30.

Give the names which distinguish the different degrees of a Diatonic Scale. § 31.

What is the object of these names? § 31.

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Define "Chord." § 33.

On what principle are Chords constructed? § 34.

Is an Interval smaller than a Third concordant? § 35.

Define "Discord," "Resolution." Show how Discord may be implied by an Interval. § 36.

What Note by its presence limits the Resolution? § 36.

On what method can Chords be best arranged for purposes of reference? § 37.

What other note besides the Tonic is a generator of Chords? § 38.

What Note is the probable canse of the importance of the Dominant? § 38.

What is the original position of a Chord? § 39.

What is the Root or Ground-note? § 39.

Is a Chord affected by the position of its upper Notes?—Give examples. § 40.

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Give a general rule for finding the number of Inversions of a Chord. § 42.

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What is a common Chord? § 45.

What is the Chord of the Major Seventh? § 46-49.

Distinguish between the Chord of Major Seventh and Suspended Subtonic. § 46.

Give examples? § 50-53.

What is the Chord of the Major Ninth on the Tonic? § 54.

How can it be distinguished from Major Ninth on the Dominant? § 54.

Give examples of Inversions of Chord of Major Ninth on Tonic. § 56-62.

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What is it generally called; and why? § 63.

Give examples. §64-67.

What is the Chord of the Major Thirteenth on the Tonic? What is its simplest form, and how named? § 78.

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Give examples of this Chord and its Inversions. § 79-87.

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When do Tonic Notes by combination become discordant? § 88.

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Of what Intervals does the Chord of the Dominanth Eleventh consist? § 101.

Is the first Inversion frequently met with? Why? § 104.

Give examples of this Chord and its Inversions. § 101-108.

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Do intervals derived from the Tonic of a Minor Key become discordant with the Dominant? § 122.

How can the Ground-Note of a doubtful Chord be best determined? § 123.

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Why does the Subtonic of the Minor Scale not descend as did the Seventh of the Major Tonic Series? § 129.

What is the Chord of the Major Ninth and Minor Third? § 130.

Give examples of it and its Inversions. § 130-136.

Of what Intervals does the Chord of the Tonic Eleventh in the Minor Key consist? § 137.

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Can Suspensions change their character? § 203.

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Give examples of its use in different positions. § 240-246.

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