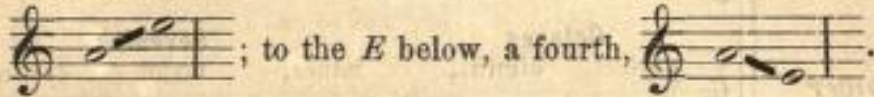


CHAPTER II.

Double Measurement of the Intervals.

§ 9. In the treatment of chords, as well as in the study of Counterpoint, we are obliged to consider the relation of two tones to each other, within the compass of an octave, both upward and downward. Thus the distance from *A* to the *E* above is a fifth



If we transpose the intervals of the *C* major scale an octave, measuring from the two-lined *C* (\bar{c}), they appear as follows.



When transposed into the lower octave, the perfect *prime* becomes a perfect *octave*, the major *second* becomes a minor *seventh*, the major *third* a minor *sixth*, the perfect *fourth* a perfect *fifth*, the perfect *fifth* a perfect *fourth*, the major *sixth* a minor *third*, the major *seventh* a minor *second*, and the perfect *octave* a perfect *prime*. Thus in the transposition into the lower octave all *perfect* intervals (perfect consonances) remain *perfect*, all *major* intervals become *minor*.

All *minor* intervals become *major*:



All *augmented* intervals become *diminished*:



All *diminished* intervals become *augmented*:



The following table presents a view of all the intervals and their inversion into the lower octave. After this plan let the pupil write all the intervals, measuring from all the other tones, and taking the eleven remaining scales as basis.

29.

Upper Intervals.

Lower Intervals.

Primes perfect, augm.	Seconds major, minor, augm.
Octaves perfect, dimin.,	Sevenths major, dimin.,
Thirds major, minor, dimin.	Fourths perfect, augm., dimin.
Sixths minor, major, augm.	Fifths perfect, dimin., augm.
Fifths perfect, augm., dimin.	Sixths major, minor, augm.
Fourth perfect, dimin., augm.	Third minor, major, dimin.
Sevenths major, minor, dimin.	Octaves perfect, dimin.
Seconds minor, major, augm.	Primes perfect, augm.

We will, for the present, pass by other transpositions of the intervals (into the tenth and twelfth). We shall, however, have to consider them carefully in the exercises in Double Counterpoint.

CHAPTER III.

The Treatment of Chords.

The fundamental chords and their inversions, also altered chords derived from the fundamental chords.

§ 10. Chords are divided into *Triads*, which are composed of three tones; and chords of the *Seventh*, which have four different tones.*)

Among *Triads* we recognize *independent* and *dependent* chords.

Those triads are called *independent* which are composed of consonant intervals (major or minor *third* and perfect *fifth*). Those triads are *dependent* which have a dissonant interval (a diminished or augmented *fifth*).

All chords of the *Seventh* are *dependent*.

Every *dependent* chord must progress to an *independent* chord.

NOTE. Two or more *dependent* chords may however occur in succession, but the last one must resolve into an independent chord.

As we are for the present restricted to *Triads*, we here give examples of the *independent* and *dependent triads* only.



a., has, from the fundamental, the major *third* *E* and the perfect *fifth* *G*, and is an *independent* Triad.

b., on the contrary, has the dissonant augmented *fifth* $G\sharp$ (measuring from the *fundamental* *C*) and is therefore a *dependent* Triad.

c., has the minor *third* and perfect *fifth* of the *fundamental* and is an *independent* Triad.

d., on the contrary, adds to the minor *third* *F* the dissonant diminished *fifth* $A\flat$ and therefore is a *dependent* Triad.

*) We shall explain at length at the end of the chapter on "Suspensions" the reason why we cannot regard accidental chord-formations — which in older text-books are treated as the chord of the Ninth, even as chords of the Eleventh and Thirteenth — as independent chords. The pupil will then have acquired sufficient knowledge to understand our demonstration.

§ 11. Each Triad is formed by adding the *third* and *fifth* above to the given *fundamental*.

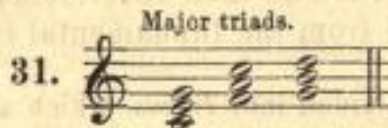
According to the relation in which the third stands to the fundamental as major or minor third, we obtain, in case the fifth of the fundamental is perfect, the hard or

Major Triad

formed with the *major third* and perfect *fifth* of the fundamental (upward), and the soft, or

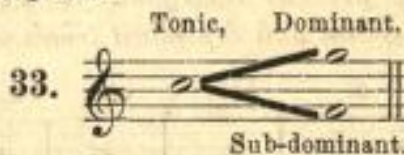
Minor Triad

with *minor third* and perfect *fifth*.



If the relation of the *fifth* to the *fundamental* be changed, still other kinds of triads can be obtained, which will be explained later.

A Triad may be formed on each degree of the scale. On the first, fourth and fifth degrees we find the most important Triads called *Primary Triads*. To the three just mentioned degrees of the scale — the *prime*, *fifth*, and *fourth* — the special names of *Tonic*, *Dominant*, and *Sub-dominant* are given.



The Triad of the first degree is accordingly called the

Tonic Triad,

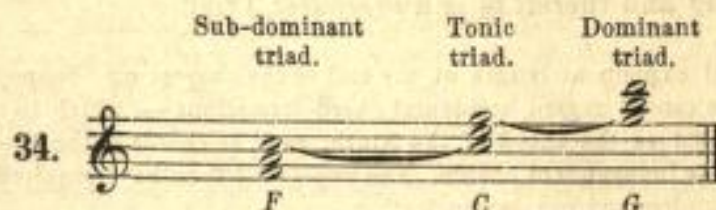
that of the fifth degree, the

Dominant Triad,

and that of the fourth degree, the

Sub-dominant Triad.

The closeness of their relation is shown in the following representation.



The Dominant Triad is developed upward from the upper note (the fifth, *G*) of the Tonic Triad, while the fundamental of the Tonic Triad forms the upper note of the Sub-dominant Triad. These three triads contain all the tones of the *C* major scale, and, in their proper arrangement, determine the key.

All three Primary Triads are major.

§ 12. If we wish to connect these triads artistically with one another, we make use of the four-voiced mixed chorus composed of Soprano, Alto, Tenor and Bass, as a means of representation.*)

In writing for chorus the compass of the high female voice (called Soprano) may, in general, be regarded as ranging from \bar{c} , to \bar{g} — possibly \bar{a} .

The lower female voice (Alto) ranges from *a* (possibly *g*) of the small octave up to \bar{c} or \bar{d} . The higher male voice (Tenor) corresponds, in the lower octave, to the Soprano, and ranges from the small *c* to \bar{g} or \bar{a} .

The lower male voice (Bass) ranges from *G* (possible *F*) of the great octave up to *c*, occasionally *d*, and even *d* of the one-lined octave.

The Soprano and Bass are called outer voices, and the Alto and Tenor, middle voices.

The compass of voices in chorus may be represented as follows:

35.

Soprano.

Alto.

Tenor.

Bass.

*) The reason why we imagine a mixed chorus of four voices as a means of representing these, and *all other* exercises, is easily explained. All our exercises are preparatory studies to Counterpoint, and Counterpoint requires the independent leading of each voice, and accordingly is in its innermost nature *vocal* in character. There we have nothing to do with harmonic masses, chords, or a predominating melody to which all other voices, as chord accompaniment, are subordinated, as is often the case in modern compositions for pianoforte, harp, organ, or, orchestra. In *all* contrapuntal work, on the contrary, even when not intended for singing, each voice must be *melodic*, and progress accordingly. Our preparatory work in the connection of chords is, however, so closely related to the later studies in Counterpoint, and is so contrapuntal in character (which at present cannot be comprehended by the pupil) that we must, from the beginning write our exercises as though with the intention of their being executed by four voices.

§ 13. If sung by a four-voiced chorus one tone of the triad must be doubled and sung by two different voices in unison or in the octave (or double octave). For this the following principles may be applied.

Any tone of the Triad may be doubled. The *fundamental* is best suited to doubling, the *fifth* less so, and the *third* still less, because, whether *major* or *minor*, it is most prominent in determining the character of the triad.

The Tonic Triad of *C* major may be written for chorus in several ways. For instance:

36.

Soprano.

Alto.

Tenor.

Bass.

C: I - - - - -

An arrangement of this kind where each voice has its own system (staff) is called a Score. We, however, do not need to use this in our first very simple exercises, but chose (for the sake of simplicity in reading) the representation on two systems, in the treble and bass clefs. So written No. 36 appears thus:

37.

a. b. c. d. e. f. g. h. i. k. l. m.

The *fundamental* is doubled at *a*, in the Soprano; at *b*, and *c*, in the Alto; at *e*, in the Soprano; at *g* in the Tenor; at *k*, and *m*, in the Alto.

The *fifth* is doubled at *d*, and *l*; the *third* at *f*, and *i*. The Dominant and Sub-dominant Triads can be represented in the same manner.

38.

etc. etc.

C: IV - - - - - C: V - - - - -

§ 14. In connecting the three triads so far known to us according to the rules of pure writing (*reiner Satz*), the first and most important principle to be observed is to lead the voices in such a way that the execution will be as easy and natural as possible to the singer. Therefore a tone common to two chords that are to be connected, should be retained in the same voice, and the other voices should be led to the nearest lying tones of the new chord.

Thus Ex. 39 shows the connection of the Tonic and Dominant Triads in their fundamental position, that is, in that position in which the *fundamental* of each chord is in the Bass.

39.

C: I V

In Ex. 39 *a*, the Alto holds the *G*, which is the *fifth* of the Tonic Triad, and the *fundamental* of the Dominant Triad. At *b*, the Tenor holds the *G*, at *c*, the Soprano, etc.

Ex. 40 shows the connection of the Tonic and Sub-dominant Triads.

40.

C: I IV

§ 15. When the Sub-dominant precedes or follows the Dominant Triad there is no tone common to both chords, and therefore no connecting tone. In this case we must lead the tones of the one chord to those of the other in such a manner that no voice progresses in *unison*, in *parallel octaves* or *parallel fifths* with another.

The following progressions are under all circumstances faulty.

41.

C: I V

In Ex. 41 *a*, the Tenor and Bass move in unison from *F* to *G* and

at the same time form parallel fifths and octaves to the Alto which progresses from *C* to *D*.

At *b*, we find parallel octaves between the Tenor and Bass, and both voices at the same time move in parallel fifths to the Soprano.

At *d*, there are parallel octaves between the Soprano and Bass, and parallel fifths between the Tenor and Bass.

These serious faults can only be avoided by leading the voices in contrary motion (to the Bass) to the nearest lying tones of the second chord.

42.

C: IV V V IV

Ex. 42 *a*, shows the correct connection of the Sub-dominant and Dominant Triads; *b*, shows the same between the Dominant and Sub-dominant Triads.

§ 16. The pupil must, therefore, clearly distinguish three motions:

- a. *Parallel motion.*
- b. *Oblique motion.*
- c. *Contrary motion.*

The progression of two voices in the same direction is called *parallel motion*. Under certain conditions *three* voices may move by steps in the same direction.

Parallel motion of four voices in the connection of Triads always results in faulty progressions and must (also in the future) be carefully avoided. It will be allowed only in rare and exceptional cases. Ex. 43 shows parallel motion of two voices.

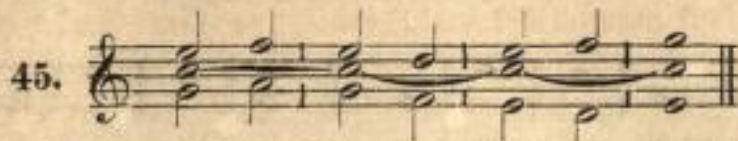
43.

Ex. 44 shows parallel motion of three voices.

44.

Oblique motion results when one voice moves upward or downward

while the other remains stationary. So in Ex. 45 both the upper and lower voice move obliquely to the middle voice.



Contrary motion has already been shown in Ex. 42 *a* and *b*. Oblique and contrary motion are best suited to avoid faulty progressions in *unisons*, *parallel octaves* or *fifths*. The leading of three, or what is worse, of four voices from one chord to another by skips, must be avoided.

It is permitted only when progressing into the inversions of the same chord.

46.

C: I I C: V V C: I IV C: V I

Consecutive unisons, fifths and octaves are possible only in parallel motion.

The three kinds of motion are combined in the following example.

47.

C I: V]

Here the Soprano *c* and the Tenor *e* move in *parallel motion* to each other, in *oblique motion* to the Alto, and in *contrary motion* to the Bass, which (the Bass) at the same time moves obliquely to the Alto.

NOTE. The explanation of the reasons why, in pure writing, consecutive unisons, octaves and fifths are prohibited, would now be incomprehensible to the pupil.

§ 17. Exercises for the connection of the Primary — the Tonic, Dominant and Sub-dominant triads.

We mark the Bass with the Roman numerals I, V and IV, because the triads under discussion are based upon the first, fifth, and fourth degrees, of the scale (see Ex. 48). The Arabic numeral 3 or 5 over the first bass-note determines the Soprano as *third* or *fifth* of the chord. If the Soprano is to take the *octave* (or double octave) of the Bass, no *designation* is used. In some cases however where it seems necessary, or desirable the figure 8 is also used.

48.

C: I IV V I C: I IV V I

G: I IV V I F: I V IV I

B \flat : I V IV I V I

All these exercises are so written that the three upper voices — Soprano, Alto and Tenor — lie near to each other, and do not overstep the compass of an octave. This position of the voices is called *Close Position*. In our first exercises we shall use only the close position.

In contradistinction to it, we call that position of the voices in which the Soprano, Alto and Tenor overstep the bounds of an octave, *Open Position*. The following chords are written in the open position.

49.

etc.

The *close position* can be formed from the *open position* if one voice is transposed an octave so that the three upper voices remain within the compass of an octave. Thus we change the chords in Ex. 49, into the *close position* by transposing the Soprano into the lower octave, between the Alto and Tenor.

50.

The *close* position is also formed by transposing the Tenor into the higher octave, between the Soprano and Alto.

51.

By transposing the Alto into the lower octave Ex. 48 would appear in the *open* position as follows :

52.

C: I IV V I C: I IV V I

G: I IV V I F: I V IV I

B♭: I V IV I V I

As an exercise in connecting the Tonic, Dominant and Sub-dominant triads, the pupil may work the basses of the following exercises — which represent the fundamental tones of the *primary triads* in different keys — in the *close position*, as shown in Ex. 48. He must write the numerals I, IV, V, under the different bass-notes in order to be continually reminded that they represent the triads of the *first, fourth*

and *fifth* degrees in the different keys. He must get accustomed to regard the triad *F A C* as the triad of the fourth degree in *C* major, and not as the triad of the first degree in *F* major. In *F* major the triad *F A C* is *Tonic Triad*; in *B♭* major, *Dominant Triad*, and in *C* major, *Sub-dominant Triad*. In *F* major it is on the *first*, in *B♭* major on the *fifth*, and in *C* major on the *fourth* degree of the scale.

§ 18. It still remains for us to call attention to the closing formation of these and all other exercises.

The closing chord of a piece must always fall upon the accented part of the measure at the conclusion of a musical phrase, and must therefore be both *rhythmically* and *metrically first*, if a full close, and not a half close is to be obtained. Under such conditions only will the hearer have the feeling of a *perfect close*.

53.

Ex. 53 satisfies us because, after a phrase of two bars, the *C* major chord falls upon the *accented* (first) part of the measure of a new phrase.

54.

In Ex. 54, on the contrary, the feeling of a perfect close is wanting, because the last chord falls upon the *unaccented* (second) part of the measure, at the close of a phrase of two bars. It is self-evident that the closing chord must always be a Tonic Triad. It may be prepared by the chord of the Dominant or Sub-dominant. In the former case we obtain the *Authentic*, and in the latter the *Plagal close*.


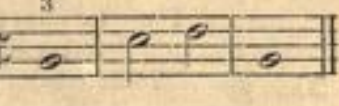
Authentic close. Plagal close.

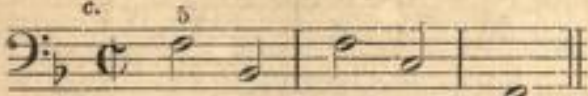
55.


V I IV I

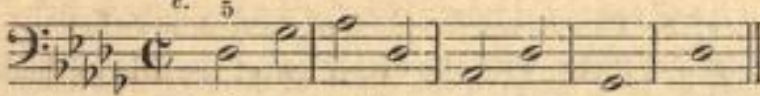
Later on we will more fully treat of the *Perfect Cadence*.

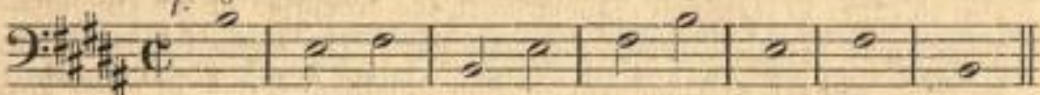
Exercises.

56. *a.*  *b.* 

c.  To be transposed into *G* and *F#*.

d.  To be transposed into *A?* and *G?*.

e.  To be transposed into *D*, *E?* and *E*.

f. 

All these exercises must be worked in the *close position* only. Later on, when the pupil has attained some surety in writing and has learned the use of the old clefs, we shall give exercises to be worked in the open position. The pupil must write Roman numerals under the Bass of *these* and *all* exercises in this book, for the indication of the degrees.

CHAPTER IV.

Secondary Triads in Major.

§ 19. Triads on the second, third, sixth and seventh degrees of the major scale are called *Secondary Triads*. The three first-named are minor triads; they contain (counting from the fundamental) a *minor third* and *perfect fifth*. The fourth, the triad of the seventh degree, presents (counting from the fundamental) a *minor third* and *diminished fifth*. It is called the *Diminished Triad*. Since it contains a *dissonant* interval (the *diminished fifth*) it is a *dissonant, dependent* chord. In order to designate more particularly the three minor triads, we make use of smaller Roman numerals, and — as it is in common use — for the Diminished Triad, the small Roman numeral with a cipher added (VII^o). In the following illustration we present the triads of the major scale in regular succession.

59.

C: II V III VI

The leading of the outer voices, the Soprano and Bass in Ex. 59 *a.*, is bad. Those two voices move in relation to each other in so-called

Concealed Octaves.

§ 21. *Concealed octaves* occur when two voices progress in *parallel motion* from different intervals to an *octave* (or double octave). For the next exercises we warn the pupil against those *concealed octaves* only in which, between the *outer voices*, one of the two voices progresses a *whole-step upward* as shown in Ex. 59.

Downwards, on the contrary, the disagreeableness of such *concealed octaves* is much less felt even when in the outer voices; so the succession of chords given in Ex. 60.

60.

is not at all to be censured; the upward progression as given in Ex. 59*b.*, might also be allowed because the close relation of the two chords (the triad *A c E* is the Sub-dominant Triad of *e* minor) considerably softens the *concealed octaves*. But the triads *D F A* and *G B D* lack a direct relationship, as the triad *G B D* does not occur in the key of *d* minor, where *D f A* is the Tonic Triad; and *vice versa*, the triad *D f A* is not contained in *G* major. In Part Second of this book will be found a more detailed treatise of *concealed fifths* and *octaves*.

The *concealed octaves* mentioned are allowed between the Bass and a middle voice if the *middle voice* progresses *diatonically* into the octave of the Bass; e. g.

61.

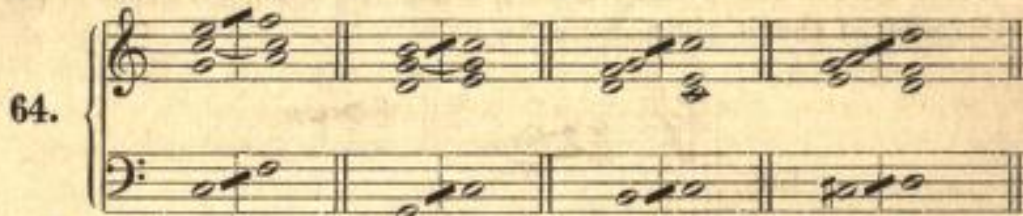
Concealed octaves can therefore only arise either when both voices skip from intervals other than an octave into an octave, viz.



which is positively *unallowable*, or when they progress, one by a skip and the other by a *whole-step* into the octave, as Ex. 63 shows.



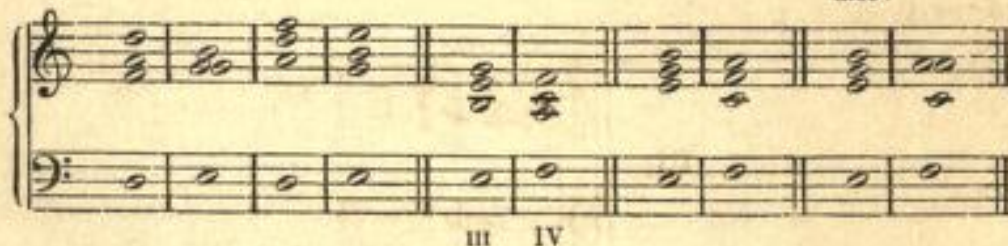
On the contrary all *concealed octaves* are good between *all*, even the *outer* voices, in which one voice progresses into the octave by a skip and the other by a *half-step*. This connection of chords has not only nothing hard or unnatural about it, but, especially in the upward progression, something very natural and pleasing.



§ 22. Two triads lying next to each other can have no tones in common, as we have already seen in the connection of the triads of the fourth and fifth degrees. In this case, in order to avoid *parallel octaves* and *fifths*, we must always make use of contrary motion. Some chord-connections of this kind here follow.



also:



The first system shows two triads: V (G-B-D) and VI (E-G-B). The second system shows five examples of triad progressions labeled a through e. Below the notes are Roman numerals: VI VII⁰, VII⁰ I.

§ 23. In the connection of the triads of the sixth and seventh, and also of the seventh and eighth degrees, (see *a*, *b*, *c*, *d* and *e*), we see that the doubling of the fundamental of the triad on the seventh degree (the tone *B*, in *C* major) is purposely avoided. The seventh degree of every scale is called the *Leading Tone*. It is especially prominent when it appears as third of the *Dominant Triad* or as fundamental of the triad of the seventh degree. Since its natural progression, especially in the outer voices, is a small half-step upward into the octave of the fundamental (in case the next chord contains that tone), the leading tone, in pure four-voiced writing, is doubled only in such cases where the progression of the two voices to the tones of the following chord can be effected in an unforced way and without a faulty leading of the voices (parallel octaves).

The leading tone in the sixth bar of the following example is doubled, which at this place not only is not faulty, but rather offers the best leading of the voices required by the progression of the Bass in the connection of the triads of the second, seventh and sixth degrees. The pupil must regard the examples 66, 67 and 68 as models for the working of the exercises given in No. 69. The following will elucidate the manner of working the examples.

66.

Soprano.
Alto.
Tenor.

Bass.

A. B. C. D. E.

C: I VI IV V III IV V I VI IV

F. G. H. I.

II VII⁰ VI I IV V I

Bar *A*, shows us the connection of the triads of the first and sixth degrees. The figure 8 signifies that the Soprano is to take the *octave* of the fundamental. This tone, as well as the *E* in the Tenor, is common to both chords. We therefore retain them in both voices and write them in whole notes, because they are to be sustained while we lead the Alto from *G* to *A*, which is the nearest tone in the triad of the sixth degree. The connection of this chord with the triad of the fourth degree (bar *B*) is accomplished in the same manner. The Soprano and Alto retain *C* and *A*, the Tenor moves to *F*. The connection of the triads of the fourth and fifth degrees (bar *B*) can only be accomplished by leading the three upper voices in *contrary motion* to the Bass. In the same manner the connection of the triads of the third, fourth and fifth degrees (bars *C* and *D*) is formed by leading the three upper voices in contrary motion to the Bass, which progresses upward diatonically.


Bar *E* shows the chord-connection already seen between bars *A* and *B*, the upper voices being in another position. Bar *F* shows us the doubling of the before-mentioned leading tone, which in this case is good. From bar *F* to bar *G* the upper voices progress in contrary motion to the Bass which moves a step downward, while at the same time the leading tone, in the Soprano, naturally moves upward. Bar *H* contains the same chord-connection as bar *B*.

67.


C: I V VI IV II V III IV II I VII⁰ I

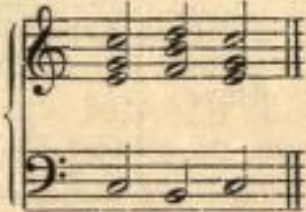
VI IV V III I V I

This example shows us a *concealed octave* between the Alto and Bass

in bars 2 and 3,  which, since it is between an outer

and a *middle voice*, the pupil need not hesitate to write. Bar 5 shows us a *downward* progression from a *perfect* to a *diminished fifth*,

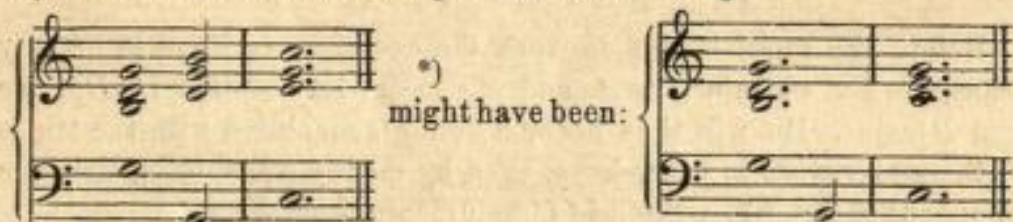
 which in most cases is good, and in this case is much

preferable to the doubling of the leading tone, 

which would result in the upward progression of the Alto from *G* to *B*. The upward progression of a *diminished fifth* into a *perfect fifth*, on the contrary, is to be avoided. For this reason the Alto must be led downward, and the *third* (*E*) of the triad of the first degree must be doubled by the Alto and Tenor.




In the last bar but one in Ex. 67 the three upper voices skip into another position of the Dominant Triad. This is not absolutely necessary, as the close of the example, instead of being:



C: V — I

*) might have been:





V — I


in which the Soprano ends on the *fifth* of the Tonic Triad.

*) The progression of the voices in skips is here correct because it is merely an inversion of the same chord.

§. 24. Ex. 68 bar 2. shows contrary motion in the connection of the triads of the second and fifth degrees, in order to avoid *concealed octaves* over a *whole-step* between the outer voices (Soprano and Bass), which would have resulted if, instead of in contrary motion,

a.  the triads had been connected:  b.

Here the Soprano at *b*, progresses *upward a whole-step*. For this reason the *concealed octave* between the Bass and Soprano is bad. In the last bar but one the three upper voices are sustained while the Bass skips

an octave:  A movement of the upper voices is

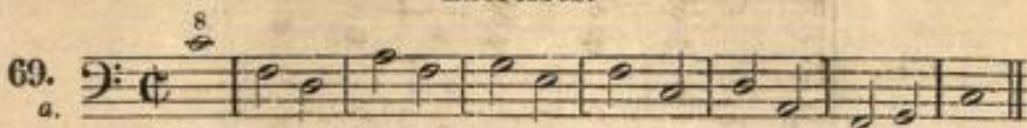
altogether unnecessary in this case, because the Bass is merely transposed into the lower octave, and the chord remains the same (that of the fifth degree). In this example the Soprano takes the *third* of the closing chord. The pupil will see from this that the Soprano does not always need to take the octave of the fundamental of the closing chord — which beginners are apt to think necessary. The Soprano can therefore take the *third* or the *fifth* of the closing chord.

68. 

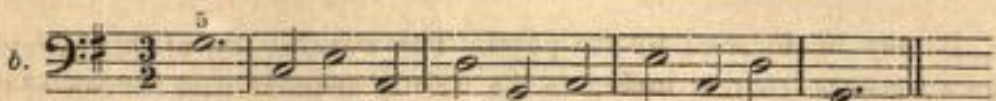
Before the pupil begins to work the exercises of No. 69, he may transpose Ex. 66 into *B \flat* , *A*, and *A \flat* major; Ex. 67 into *D*, *D \flat* , *E \flat* and *B* major. He will thus become better acquainted with the triads of the major scale in other keys, than by merely transposing the table of chords in No. 57, written in *C* major, into other keys.

In No. 57 the triads are put side by side without any connection; in Ex. 66 and 67 the chords are presented in natural connection with each other. The exercises of No. 69 also, are to be transposed into the keys there mentioned.

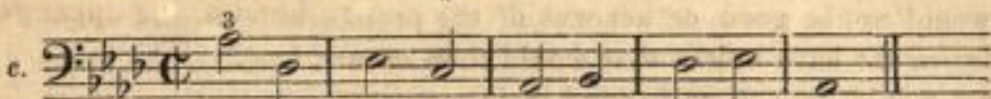
Exercises.

69. 

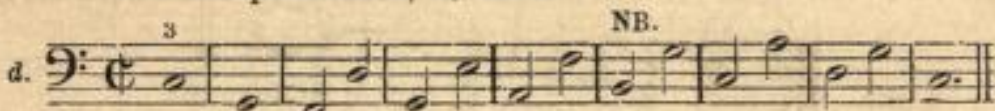
To be transposed into *D*♭.

b. 

To be transposed into *F*, *F*♯ and *G*♭.

c. 

To be transposed into *A*, *B*♭ and *B*.

d. 

To be transposed into *D*.

§ 25. The last exercise (*d*) of No. 69 gives occasion for some remarks. At NB. the leading tone *must be doubled*, because it is the best leading of the voices, corresponding to the Bass, which progresses in *similar repetitions of the same interval*. Such a consequent order of progression of the Bass, to which the leading of the upper voices corresponds, is called a *Sequence*. Exercise *d*, therefore appears as follows:

Sequence - - - - - NB.

69d. 

Sequence
C: I V IV II V III VI IV VII⁰ V



I VI II V I

This example may also be worked beginning with the *fifth* of the Tonic Triad in the Soprano.

69c.

It may be finished by the pupil. The working out of this example as a *sequence* corresponding to the strictly sequent progression of the Bass by beginning with the octave of the *fundamental* in the Soprano, would not be good on account of the prominent *concealed octaves* between the *outer* voices that would then occur; besides, the upper voices would have to go beyond their compass.

69f.

NOTE. In certain sequences the principle of retaining in the same voice the tones common to two chords can be deviated from for the sake of the *sequence*. For instance, the following Bass:

Sequence.

can just as well be worked:

70.

as in this manner:

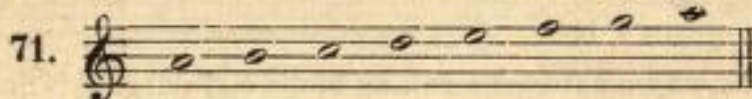
In G major it can be worked out:



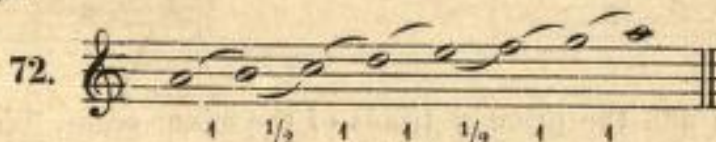
CHAPTER V.

The Minor Scale and its Triads.

§ 26. The minor scale nearest related to a major scale has the same signature as that major scale. It begins with the sixth tone of the major scale or, which is the same thing, its *fundamental* is a *minor third* below the fundamental of its relative major scale. So, *a* minor is related to *C* major; *d* minor to *F* major; *e* minor to *G* major; *g* minor to *B♭* major, etc. According to the signature the tones of both keys would be the same, but the minor scale assumes a different character by beginning with the *sixth* of the major scale, and progressing in its tones.



The relation of the tones of the *C* major scale thus changed as to the order of their succession in the *a* minor scale, gives a totally different character to that scale. The relation of the several tones in this order shows a whole-step from the first to the second tone; a half-step from the second to the third; from the third to the fourth, and the fourth to the fifth, whole-steps; from the fifth to the sixth a half-step; from the sixth to the seventh, and from the seventh to the eighth, whole-steps.



We have shown in Ex. 55, that the authentic close can only be formed by a *major* Dominant Triad before the closing chord; but, according to the minor scale represented in examples 71—72, we could

Only make use of the legal close



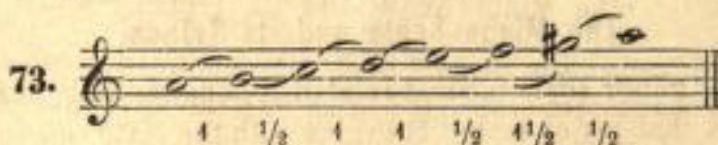
in pieces

a: IV I

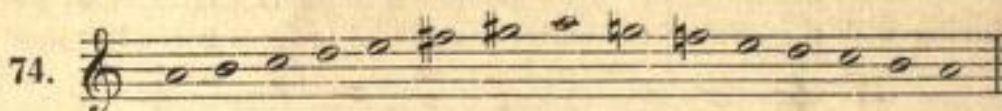
Handwritten notes: 1 1/2 1 1 1/2 1 1

written in the minor key. In order to make the Dominant Triad *major*, so as to form the authentic close in the minor key by means of the major triad, the *seventh* tone is raised a *large* half-step. This tone thereby receives, through its relation of *small* half-step to the octave of the fundamental, the character of *leading tone*, and is very prominent as such in the three triads of the minor scale in which it is contained.*)

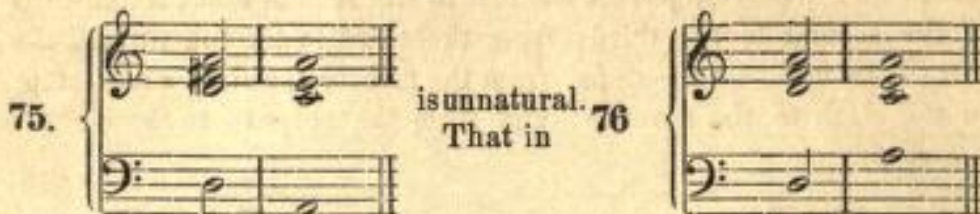
The minor scale necessary to the formation of chords has therefore the following succession of tones (indicated by the figures) in their natural relation to each other as to distance:



This progression of tones is called the **Harmonic** minor scale in contradistinction to the **Melodic** minor scale, which is formed in its upward progression by raising the sixth and seventh degrees, and in its downward progression by lowering the sixth and seventh degrees.



The reason why a chromatic raising of the sixth degree is not necessary in the harmonic minor scale, i. e. that minor scale which is necessary to the formation of chords — is evident in the formation of the Plagal close, as it is *impossible* to form it in minor with a *major* Sub-dominant Triad preceding the Tonic Triad. The progression in Ex. 75



is natural.

§ 27. We find the primary triads of the minor scale, like those of the major scale, on the first, fourth, and fifth degrees. Those on the first and fourth degrees are minor triads.



*) The chromatic raising of the *seventh* of the minor scale must be specially indicated every time it occurs. To indicate it once for all at the beginning of a piece would easily lead to mistakes, and be contradictory in itself. The *minor* always takes the signature of its *relative major*.

For page 33 See after page 240

The Dominant Triads becomes *major* by raising the seventh degree.



It is formed exactly alike in major and minor; *E G# B* is the Dominant Triad both of *A* major and *a* minor. These three primary triads of the minor scale bear the same relation to each other as the primary triads in major (as shown in Ex. 34).

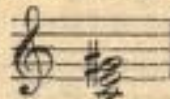
Primary triads in minor



On the remaining degrees of the minor scale are found the triads.:



Those on the second and seventh degrees are *diminished*, that of the sixth degree is *major*. On the third degree is found a new chord, viz. a triad with *major third* and *augmented fifth*.



It is called the **Augmented Triad**. It is indicated by III', as already shown in Ex. 79. The triads of the minor scale are presented in regular order in Ex. 80.

80.

	Primary triad of the Tonic. minor triad.	Secondary triads. dimin.	augm.	Primary triads. minor.	major.
	a: I	II ⁰	III'	IV	V
		Secondary triads. major.		dimin.	
		VI	VII ⁰		

There are only four *independent* triads in the minor key. They are the three primary triads of the first, fourth, and fifth degrees, and the secondary triad of the sixth degree. The dissonant triads of the second, third and seventh degrees are *dependent*. The greater number of dissonant triads in minor (three to one, as compared to major) result from the necessary chromatic raising of the seventh degree of the minor scale. Owing to these *dependent dissonant* chords, and especially to

the distance of a step and a half from the sixth to the seventh degree, difficulties arise in connecting the triads of the minor scale with each other.

We shall not make use of such successions of triads as those in Ex. 81 :

81.

a: II^0 III' II^0 III' II^0 III'

although no objection can be made to such leading of the voices.*)

§ 28. The step of the *augmented second* — from the sixth to the seventh degree — is an interval difficult to be sung perfectly in tune.**) It must therefore be carefully avoided in the connection of the chords of the sixth and seventh degrees, as also in all chord-connections where it is possible to occur. The following chord-connections are very bad.

82. a. b. c. d. e. f.

a: II^0 V III' IV III' VI VI V II^0 V V VI

§ 29. In connecting the triads of the fifth and sixth degrees, when the Dominant Triad is first, the step of the *augmented second* can be avoided only by doubling the *third* of the following chord (on the sixth degree). If the triad of the sixth degree is first, it is written with the *third* doubled. (See examples 83 and 84.)

83.

V VI V VI V VI V VI V VI

*) The principle to be observed in pure writing is to prepare dissonances and to resolve them into consonances. A succession of several dissonant triads, the first of which is not prepared, and the second does not resolve into a consonant chord, must be avoided as being contrary to the laws of pure writing (strict style).

**) It is most difficult in an upward progression, if after the *sixth* the *seventh* is sung as leading tone. It is of course easier when, in a downward progression, after the octave the *seventh* is sung and then the *sixth*. But in the examples in this text-book the pupil is strictly forbidden the use of either progression.

84.

a: VI V VI V VI V VI V VI V

In the connection of the triads of the second and third degrees (which seldom occurs) the step of the *augmented second* can be avoided by contrary motion, which the bass-progression necessitates.

85.

a: I IV II⁰ III'

etc.

In the same way we shall make use of contrary motion in connecting the triads of the second and fifth, and fourth and fifth degrees, even though in the former case *consecutive octaves* would not occur by progression in parallel motion.

86.

a. b.

a: II⁰ V II⁰ V IV V IV V IV V

At Ex. 86 *a.* we had to deviate from the principle of retaining the tone common to two chords in the same voice, because (in *close position*) we could not have retained the tone *B*, and could not lead *F* to *G* \sharp . Progressions of this kind:

87.

must *always* be avoided.*)

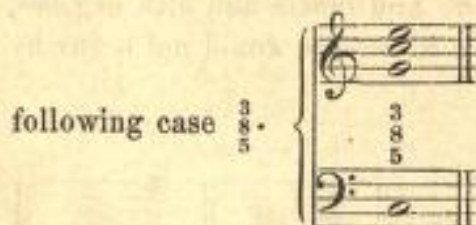
*) If the second chord were written in the *open position*, *B* could be retained in

§ 30. As the chromatic alteration of the seventh degree of the minor scale must be specially written, we shall always indicate it by placing a \sharp , \sharp or \times over the bass-note which necessitates its use. This sign without a figure refers only to the *third* of the Bass. If it is to refer to any other interval of the Bass, we write the number of that interval over the Bass and place beside it the necessary sign of alteration. (In our next examples it can refer only to the *fifth* of the Bass.) When the sign of alteration is a sharp (\sharp) a dash through the figure (\bar{s}) suffices to indicate it, e. g.



Although triads in their fundamental position are not usually figured, whenever the *fifth* of the Bass is to be raised it is necessary to indicate this by the figure 5 with its accompanying sign of alteration: \bar{s} , $5\sharp$ or $5\times$.

It may also be necessary to figure the triad in the beginning — as is already known — in order to indicate the position of the Soprano, and of the other voices also. It is figured, 3, 5, 8, or $\frac{8}{3}$, $\frac{8}{5}$, and in the



Therefore the above Bass through its figuring, gives occasion for the following remarks:

1. The upper voices must be so arranged that the Soprano takes \bar{c} , the alto \bar{a} and the Tenor \bar{e} and from this the progression of the upper voices follows according to the laws already known to us.



must confine himself to the *close* position so as to avoid confusing difficulties that might occur in the open position. Besides, the open position is not necessary to our present purpose.

2. The sharp without a figure over the bass-note *E*, shows that the *third* of the bass-note, in the Dominant Triad, is to be chromatically raised.
3. The dashed figure 5 (*s*) over the bass-note *C*, shows that the *fifth* of the Augmented Triad must be *G#*.

No. 89 shows the working of the example.

89.

G: I IV V III' VI II^o V I

The pupil may transpose Ex. 89 into *c* minor, *b* minor, *b* major, *g#* minor, *g* minor, *f#* minor and *f* minor, in order to accustom himself to the minor triads of all keys. For this reason we give the transposed bass with the necessary signs of chromatic alteration.

All figures and signs over the bass-notes are called *Thorough-Bass Notation*.

90.

§ 31. Ex. 91, second bar, shows the connection of the triad of the sixth degree with that of the fifth degree, and in the fifth bar that of the Dominant Triad with the triad of the sixth degree.


91. 

1 VI V III' 1 IV 1 VI IV II⁰

III' V VI IV II⁰ V 1

Over the third note (*F*) in the second bar, also over the second note (*A*) in the fifth bar the chromatic sign is omitted, because in both cases the seventh degree of the scale had already been raised. We call attention to the fact that in these exercises every chromatic alteration holds good throughout the bar.

The Bass of 91 is shown worked in two ways in the following example, which the pupil must carefully study and then transpose into *e*♭ minor and *C*♯ minor, before he works out the basses of Nos. 93, 94 and 95.

92. 

a. 1 VI V III' 1 IV 1 VI IV II⁰

b. III' V VI ... IV II⁰ V ... 1 1 VI V III'

III V VI IV II⁰ V 1

Exercises.

93.

The same position of the first note of the Soprano is to be kept in the transposition of this exercise into *c*, *b*, *b♭*, *g♯*, *g*, *f♯* and *f* minor.

94.

In working Ex. 94 in *c♯* and *d* minor, the Soprano must begin with the octave, and in *e* and *e♭* minor with the *fifth* of the Bass.

95.

In concluding this chapter we give the pupil another view of all the triads of the major and minor scales.

Triads of the major scale.

96.

Triads of the minor scale.

97.

We have seen that these triads differ according to their structure; that there are *major* triads on the first, fourth and fifth degrees of the major scale, and on the fifth and sixth degrees of the minor scale; that there are *minor* triads on the second, third and sixth degrees of the major scale, and on the first and fourth degrees of the minor scale; that the *diminished* triad is on the seventh degree of the major, and on the second and seventh degrees of the minor scale, and that the *augmented* triad is on the third degree of the minor scale.

CHAPTER VI.

Inversion of the Triads.

§. 32. The fact that all these exercises, even when worked in the most correct manner, have had something of a forced, stiff, and unnatural character, is due partly to our having made use of triads only, and partly because we could employ them in their *fundamental position* only — that is, in that position in which the Bass takes the *fundamental* tone of the chord. The Bass can also take the *third* or *fifth* of the triad. In this case we no longer speak of the *fundamental position* of the triad, but we call the formation of a chord thus altered:

Inversion.

The two possible inversions of the triad are called:

- a. The Chord of the Sixth, when the *third* of the triad is in the Bass,
- b. the Chord of the Sixth and Fourth, when the *fifth* of the triad is in the Bass.

Each triad can be used in the position of chord of the Sixth, and chord of the Sixth and Fourth. It is self-evident that no new chords are formed, but that different positions of one and the same chord are used.

The fundamental position of the triad has been, as we know, only exceptionally figured 3, 5, 8, $\frac{6}{5}$, $\frac{8}{5}$, $\frac{3}{8}$, viz: at the beginning of an exercise (in order to indicate the position of the Soprano, or of all the voices). In the middle of an exercise it was marked only by a chromatic sign over the bass-note for the *third*, and by the figure 5 with a chromatic sign for the *fifth*, when a chromatic alteration of these intervals (in the minor scale) was necessary.

The first inversion of the chord of the Sixth must be figured 6, or $\frac{6}{3}$, or the figure 6 with a chromatic sign under it, which refers to the *third* whenever that *third* requires a chromatic alteration.

The second inversion, the chord of the Sixth and Fourth, is always figured $\frac{6}{4}$.

We shall therefore write the Triad of *C* in its fundamental position (*C E G*) over the note *C*, when it is not figured (or when figured 3, 5, 8 etc.). *C*, when figured 6 (or $\frac{6}{3}$), indicates the chord of the Sixth of that triad, in the fundamental position of which *C* is the *third*.

C figured $\frac{6}{4}$, indicates the chord of the Sixth and Fourth of that triad, in the fundamental position of which *C* is the *fifth*.

Fundamental position. Chord of the Sixth. Chord of the Sixth and Fourth.

98.

C: I vi IV

If we think of this example as being in *C* major we have — as is already indicated by the figures under the Bass — on the *C* in the first bar the triad of the first degree, on *C* in the *second* bar, the chord of the Sixth of the triad of the sixth degree, and on *C* in the *third* bar, the chord of the Sixth and Fourth of the triad of the fourth degree. These three triads in all their inversions are shown in the following example.

99.

C: I I I vi vi vi IV IV IV

We shall explain later on why, in the position of chord of the Sixth we have *purposely avoided* doubling the bass-tone, which is the *third* of the primal chord. For the present the pupil will carefully study the arrangement of the voices of the chord of the Sixth as shown in the following examples of the triads of all the degrees, in all positions in major and minor. In the chord of the Sixth of the seventh degree *only* (both in major and minor) have we *purposely doubled* the Bass (the *third* of the primal chord).

The reasons for this are given immediately after the following table:

a.

100.

C: I I I II II II III III III

IV IV IV V V V VI VI VI

but not:

or:

NB.

VII⁰ VII⁰ VII⁰ VII⁰ VII⁰ VII⁰ VII⁰ VII⁰ VII⁰

b.

seldom: better:

a: I I I II⁰ II⁰ II⁰ III' III' III' III'

IV IV IV V V V VI VI VI

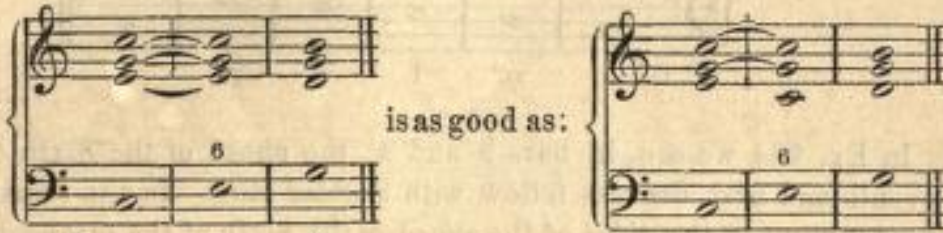
also:

VII⁰ VII⁰ VII⁰ VII⁰

§ 33. What has already been said (§ 13 page 14) concerning the doubling of the leading tone of a triad in its *fundamental* position is, in general, also applicable to its inversions. Since the *third* determines whether a triad in major or minor, and is therefore the most prominent interval of the triad, the feeling that it should not be doubled in

the chord of the Sixth is much stronger because it (the third) is in the Bass, which, being an outer voice, makes it more prominent. *Any* interval, if placed in an outer voice, becomes more prominent than if in a middle voice. We shall, therefore, double the *third* in the chord of the Sixth only —

a. When a smoother leading of the middle voices can be obtained by retaining a tone. e. g.

101.  is as good as:

C: I I V

But the consideration to be had for the leading tone must not be disregarded. Therefore the following chord-connection would not be advisable.

102.  better:

C: V V vi V V vi

a. On account of this consideration for the leading tone we must avoid doubling the fundamental of the primal chord (which is the leading tone of the scale) in the chord of the Sixth of the seventh degree in major or minor.

Therefore the rule in four-voiced writing is:

In the chord of the Sixth of the triad of the seventh degree, double the Bass — the *third* of the *primal chord* —, or the *third* of the Bass — the *fifth* of the *primal chord*.

103.  C: vii⁰ vii⁰ vii⁰ a: vii⁰ vii⁰ vii⁰

c. Moreover, the *third* of the primal chord *must* be doubled in the chord of the Sixth, if in two or more succeeding chords of the

Sixth *parallel fifths* or *octaves* cannot be otherwise avoided, and when an unforced leading of the voices makes the doubling of the *third* more natural than that of the *fundamental*.

104.

C: I vii⁰ I ii V I

In Ex. 104 we see, in bars 2 and 3, the chord of the Sixth of the seventh and first degrees follow with *doubled third*. In the fourth bar the doubling of the *third* of the chord of the Sixth of the second degree had to be avoided. We therefore present the following rule:

If two or more chords of the Sixth follow *by degrees*, the *third* must, in most cases, be doubled in each alternate chord in order to avoid faulty progressions (*parallel fifths* and *octaves*).

105.

C: I ii V vi vii⁰ I a: I vii⁰ iv III' VI V

Sequence of Chords of the Sixth.

106.

C: I vii⁰ I vii⁰ I ii I ii iii ii iii IV

C: IV iii ii iii ii I

§ 34. In the chord of the Sixth and Fourth the doubling of the Bass, which is the *fifth* of the primal chord, is most advisable. The *fourth* of the Bass (the *fundamental* of the triad) may also be doubled. Only in exceptional cases (when it tends to a natural leading of the voices) may the *sixth* of the Bass (the *third* of the primal chord) be doubled.

rarely: rarely:

107.

C: I I I I I a: i i i i i

As was shown in Ex. 37, (§ 13) that, when the fundamental is in the Bass, the upper voices may take any position in the triad, so also in the inversions of the triad the upper voices may be grouped over the bass-note at pleasure. Therefore in the chord of the Sixth and the chord of the Sixth and Fourth the upper voices may be written in various positions to each other and to the Bass, e. g.

Chord of the Sixth.

Close position. Open position.

108.

C: I I I I I I I I I I I I I

Chord of the Sixth and Fourth.

Close position. Open position.

109.

C: I I I I I I I I

The pupil has already seen from the examples in 100b that each chromatic alteration of an interval of a chord must be indicated, by the necessary sign of alteration over the bass-note for the *third* of the

Bass, and for any other interval by a figure with the chromatic sign belonging to it, and that accordingly it must be written before the corresponding interval in the upper voice.

If two or three figurings are found *side by side* over one bass-note, it is to be understood that each figuring has an equal part of the value of said bass-note. In such cases the fundamental position of the triad must also be figured, 3, 5, 8, $\frac{5}{3}$, $\frac{3}{5}$. So the following Bass:

is written:

110.

So when the figures 3, 5, 8, $\frac{5}{3}$, $\frac{3}{5}$ occur in the middle of an exercise, they do not refer to the position of the Soprano, but simply indicate the triad in its fundamental position. See the following example.

111.

Another example.

112.

B♭: I I V III VI II V I IV VII⁰

I VI II IV IV I

The leading of the voices from bar 2 to bar 3, and from bar 3 to bar 4

6 6

is better than:

113.

6 6

or:

114.

6 6

In both examples (113 and 114) occur *concealed octaves* over a *whole-step* between Tenor and Bass. While we have not as yet forbidden the pupil to write such *concealed octaves* between an *outer* and a *middle*

For page 47 see after page 404

voice, we would urge the necessity of avoiding them whenever it is possible to do so in a *natural manner*. The contrary motion which was used Ex. 112 at the places in question partakes much more of the nature of strict writing.

Therefore, when a tone which is doubled by an upper voice belongs also to the following chord, it is in *most* cases better to retain it in that voice which allows the other voices to progress in *contrary motion* to the Bass.

When, at the close of an exercise, the chord of the Sixth and Fourth appears upon the *accented* part of a measure before the Dominant Triad in its fundamental position, it strengthens the feeling of a complete close.

115.

I V I I V I

The feeling of a complete close is not so strong if the chord of the Sixth and Fourth occurs on the *unaccented* part of the measure and before a chord other than the Dominant Triad, even if it is the chord of the Sixth and Fourth of the *Tonic Triad*.

It is still less felt if the chord of the Sixth and Fourth (on the *unaccented* part of a measure) is the inversion of another triad than of that of the first degree.

116.

C: I V I IV I IV V I V I vi IV

II III VI II VI II V I IV I

For page 49 See after page 32.

A repetition of the chord of the Sixth and Fourth, as in Ex. 116, is not agreeable, and its introduction in the middle of an exercise is, in strict writing, dependent upon conditions which will be explained later on. The chord of the Sixth and Fourth is always much less used than the *fundamental* position of the triad, or the chord of the Sixth. In our exercises we shall generally meet the chord of the Sixth and Fourth near the close. Roman numbers must here, and in all other exercises, be written under the Bass before the working of the exercise, for the purpose of indicating the tone degrees to which the chords in their different positions belong. This practice must be carefully adhered to, as has been done in all the exercises heretofore given.

By this means the pupil will avoid mistakes, as it will thus become clear to him before working the exercise, with what chords he has to deal, both in their fundamental position, and in their inversions. The basses of the following exercises are so arranged that the pupil can employ as melodious a leading of the Soprano as possible.

For this purpose he is allowed occasionally to make use of a skip of a *fourth* when it conduces to a more graceful progression of the Soprano, without impairing the smooth leading of the middle voices. So the Soprano of 117 *a*, is preferable to that of 117 *b*.

117. 

G: I V I IV VI IV I V I IV VI IV

Easier exercises.

118 a. 

More difficult exercises.

118 b.

To be transposed into $D\flat$, D , $E\flat$ and E .

a.

To be transposed into $F\sharp$, F and E

f.

To be transposed into B and C .

k.

To be transposed into B , $B\flat$, A , $A\flat$ and G .

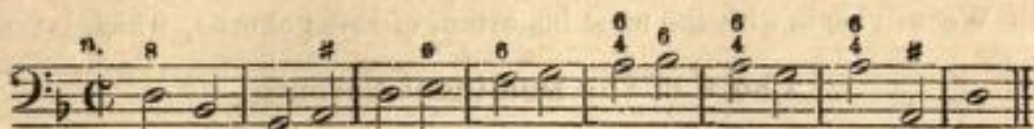
l.

NB.

The \sharp at NB. suffices to designate the Dominant Triad with raised *third*. The complete figuring would be $\frac{5}{\sharp}$ or $\frac{8}{\sharp}$. This example is to be transposed into $c\sharp$, d , $e\flat$ and e .

m.

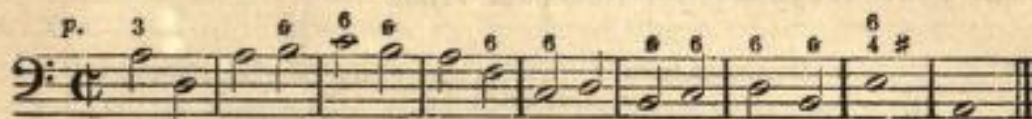
To be transposed into f and $e\flat$.



To be transposed into *e* and *c#*.



To be transposed into *g#* and *a*.



To be transposed into *g#*, *g* and *f#*.



To be transposed into *f#* and *g*.

In the working of these exercises the pupil will occasionally have to double the *third* of the triad, both in the fundamental position, and in the chord of the Sixth. He need not hesitate to do it when required by a correct leading of the voices; but he must avoid doubling the Third, if it is *the leading tone*.

CHAPTER VII.

Chords of Four Tones (Vierklänge). Chords of the Seventh.

§ 35. By adding a *third* to a triad the *Chord of the Seventh* results, i. e. a chord in which the distance from the *fundamental* to the highest note is a *seventh*. By adding a major or minor *third* above the *fifth*, or below the *fundamental* of a triad, various chords of the seventh may be formed from any triad. e. g.



All these chords are *dissonant*, or *dependent*, chords. They can never appear alone, but always in connection with other chords. The *seventh* or dissonant interval, must be *prepared* in most of these chords, and all chords of the Seventh must *resolve*.

We will begin with the most important of these chords, which is the

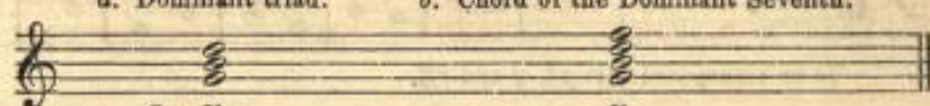
Chord of the Dominant Seventh.

It is also called **Principle chord of the Seventh.**

This most frequently occurring chord of the Seventh needs no preparation of its *seventh*. We shall therefore not yet tell the pupil what is meant by *preparation*, and how it must be employed.

The chord of the *Dominant Seventh* is formed by adding a *minor third* above the *fifth* of the Dominant Triad.

a. Dominant triad. b. Chord of the Dominant Seventh.

120. 

We mark this chord of the Seventh, as can be seen in 120 b: V_7 .

Since the Dominant Triad is the *same* in major and minor, so also the chord of the Dominant Seventh is *formed* in the *same manner*, in major and minor, by a *major triad*, above the *fifth* of which a *minor third* is added, which is a *minor seventh* of the *fundamental*.

121. 

The complete *figuring* of the Bass is given by the designation of all the intervals of the chord of the Seventh with the figures $\frac{7}{3}$. This figuring is rarely necessary, but that of $\frac{7}{5}$ or $\frac{7}{3}$ may often be required. Generally the chord of the Dominant Seventh in *major* need only be figured 7. In *minor* the necessary chromatic sign must be added under the 7 for the raising of the *third* of the chord (the leading tone of the scale).

122. 



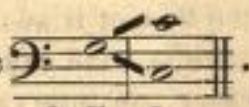
It is hardly necessary to remark that the position of the intervals of the chord of the Seventh in the three upper voices, in relation to the Bass, may be arranged at pleasure, in the same manner as the triad and its inversions. We shall not again mention this point.

Natural resolution of the Chord of the Dominant Seventh.

§ 36. Although the chord of the Dominant Seventh need not be *prepared*, and can enter freely, e. g.



it must nevertheless be *resolved*. It naturally resolves into the Tonic Triad, in such a way that the Bass (the Dominant of the key) skips

either upward a *fourth*, or downward a *fifth* to the Tonic .

The *seventh* descends, in major a half-step, in minor a whole-step.



The *third* which is the leading tone, moves a half-step upward into the *octave* of the *fundamental*.

C: V₇ I a: V₇ I e: V₇ I

The *fifth* may be led either a step upward or downward.

124.

C: V₇ I V₇ I e: V₇ I V₇ I

A: V₇ I V₇ I a: V₇ I V₇ I

In this natural resolution of the chord of the Dominant Seventh, the Tonic Triad appears incomplete; the *fifth* is omitted. In any triad and also in any chord of the Seventh, the *fifth* may be omitted and another interval be doubled in its stead. As we have seen in Ex. 124, the *third* of triads as well as the *fundamental* may be doubled, (any interval of a triad can be doubled) while in chords of the Seventh, in most cases, no interval but the *fundamental* can be doubled in four-voiced writing.*)

*) Exceptions to this rule also occur. The *third*, and even the *seventh*, is sometimes doubled in four-voiced writing. Such is especially the case when several chords of the Seventh follow each other, as the following example shows.

C: I D₇ G₇ I

Therefore the chord presents itself:

125.

C: V₇ V₇ V₇ V₇ a: V₇ V₇ V₇

In this case the *fundamental*, which is doubled in one of the upper voices is retained in the same voice, and becomes the *fifth* of the Tonic Triad. Here follow the resolutions of the chords given in 125:

126.

C: V₇ I V₇ I V₇ I V₇ I

a: V₇ I V₇ I V₇ I

The considerations for a correct leading of the voices often compel us to write the chord of the Seventh without the *fifth*, and with doubled *fundamental*; so the connection of the triad of the fourth degree with the chord of the Dominant Seventh in its fundamental position is best attained if the *fifth* of the Dominant Seventh is omitted, and the *fundamental* doubled in its stead. The connection of these chords in Ex. 127 is much better than in 128, where, for the sake of avoiding *parallel fifths*, the upper voices progress by skips in contrary motion to the Bass.

The chord of the Seventh may, in very rare cases, to be sure, appear with the

third omitted.

127. better.

C: IV V₇ IV V₇ IV V₇ IV V₇ a: iv v₇

128. not so good.

C: IV V₇ IV V₇ IV V₇ a: iv V₇ iv V₇

There is still another way of writing the triad complete in the resolution of the chord of the Seventh. But this is possible only under certain circumstances.

If the *third* of the chord of the Seventh is in a *middle voice*, and if the *fundamental* in the Bass makes a skip of a *fourth upward* in the resolution, the *third* may make a skip of a *third downward* in contrary motion to the Bass.

129.

C: V₇ I V₇ I a: v₇ i V₇ i

This can however not take place if the *third* is in the **Soprano**.

130.

a. bad. b. very bad. c. not good. d. very bad.

C: V₇ I V₇ I V₇ I a: v₇ i

In § 23 we treated of the natural tendency of the leading tone toward the octave of the fundamental, providing the next chord contains

that tone. This is most prominent in the connection of the Dominant and Tonic chords. But this upward tendency of the leading tone is less striking in the *middle voices*, because then the leading tone is more concealed by the outer voices, and consequently is less prominent. The connection of the Dominant chord however, (no matter whether triad or chord of the Seventh) with the Tonic Triad can never take place in such a way that the *fundamental* and *third* of the Dominant chord skip downward in *parallel* motion into the *fundamental* and *fifth* of the Tonic Triad.

The progression of the *third* and *fifth* of the chord of the Seventh into the *fifth* and the *fundamental* of the triad as in Ex. 130 *b.* and *d.* is therefore doubly faulty. All such progressions result in

Concealed Fifths.

Concealed fifths result when two voices move from different intervals into a *perfect fifth* (or *twelfth*). e. g.

131.

Such *concealed fifths* must be carefully avoided as faulty progressions,

1. always when (as in 131 *b.*) both voices move *by a skip* into the *perfect fifth*;
2. generally when (as 131 *b.*) the upper voice moves *by a skip* and the lower voice *by a degree*, into the *perfect fifth*.

Other *concealed fifths*, viz. those in which the *upper* voice moves *by a degree*, and the *lower* voice *by a skip*, we shall for the present unhesitatingly permit, provided that no other faulty leading of the voices occurs at the same time. So the progression at 132 *a.* can by no means be objected to, while that at 132 *b.* is altogether faulty, because of the *concealed octaves* appearing in conjunction with the *concealed fifths* in two voices that *skip*, and on account of the *parallel motion* of all the voices. See § 21, and § 16.

132.

§ 37. After all that has been said, it will not be surprising to see the chord of the Dominant Seventh *without* the *fifth* and with *doubled fundamental* more often than *with* the *fifth*, in practical four-voiced writing. To be sure, the chord of the Seventh, which contains four tones, can more easily do without the *fifth* than the Triad, which has but three tones. In conclusion we would remark that the natural resolution of the chord of the Dominant Seventh into the Tonic Triad is called a *Cadence*. If the resolution takes place in such a way that the chord of the Dominant Seventh on the *unaccented* part of the measure is followed by the Tonic Triad on the *accented* part of the measure, this connection of the two chords forms the *Principal Cadence*.

133.

C: V₇ I V₇ I V₇ I V₇ I a: V₇ I

V₇ I V₇ I V₇ I V₇ I V₇ I

If we wish to have the Dominant Triad followed by the chord of the Dominant Seventh, we indicate it:

1. when the *octave* of the *fundamental* of the Dominant Triad is to progress into the *seventh* by a degree, with 8 7 over the Bass:

134.

G: I V V₇ e: I V V₇

The line under the figure 7 signifies that the chromatic sign of alteration holds good for the *third* of the chord of the Seventh also. It may however be omitted within the same measure.

2. when the *fifth* is to skip into the *seventh*, with 5 7:

135.

D: V V₇ I h: V V₇ I

Occasionally the *third* may skip into the *seventh*:

C: V V₇ I

The following Bass:

is accordingly to be worked:

136.

C: I IV V V₇ I VI II V V₇ I


The exercises in the appendix belonging to this chapter must be analysed, and accurately marked as shown in 136.


Exercises.

137. ^a

^{b.}

NOTE. In this exercise the pupil must be careful not to treat the *fifth* of the triad of the seventh degree in the same way as the *seventh* of the chord of the Dominant Seventh, and accordingly always lead the note C downward. The *fifth* of the triad

may just as well be upward as downward. (In the exercise in question it is better to lead it upward.) The seventh of  must be led downward.



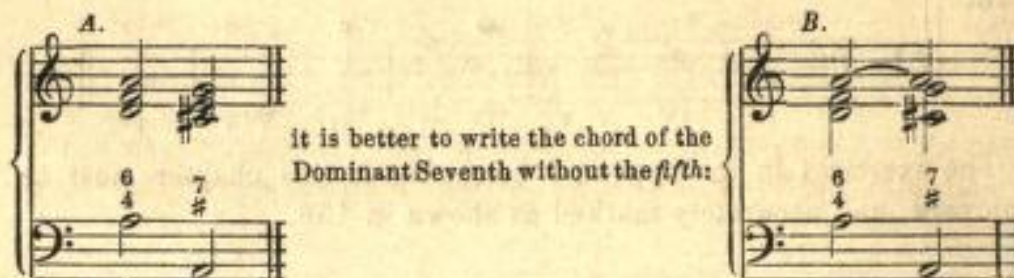
c. 3 6 7 6 6 6 8 7

d. 6 6 6 6

f. 7 6 6 7

NB.

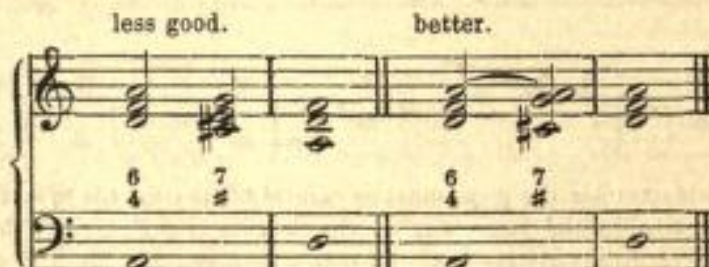
NB. Also in the connection of the triad of the sixth degree with the chord of the Dominant Seventh, the former *must* be written with *doubled third*, in order to avoid faulty progressions to the Dominant Triad. (Compare § 28.) In the last bar but one the parallel motion of all the voices downward is not good:



A. B.

It is better to write the chord of the Dominant Seventh without the *fl/7th*:

The leading of the voices at B. would be preferable if the Bass were to rest on the tone *a*, because the simultaneous downward progression of the three upper voices, without contrary motion in the Bass, from the perfect into the diminished *fl/7th*, does not produce an agreeable effect.



less good. better.

The chromatic raising of the seventh degree in the last exercise is indicated each time by a double sharp (×); it would, however, have sufficed, had the figures 5 and 6 been dashed (s 6). But for the *third* of the chord of the Dominant Seventh, the double sharp (×) had to be written, because the figure 3, in this case, could be omitted.

All these, as also the following exercises must be transposed and worked in other keys.

CHAPTER VIII.

The Inversions of the Chord of Dominant Seventh, and Their Natural Resolutions.

§ 38. Just as the Triad could appear in three different forms — in its fundamental position, as chord of the Sixth, and as chord of the Sixth and Fourth, — so also every chord of the Seventh, corresponding to the number of its intervals, can take four forms. They are, the chord in its fundamental position, and in its three inversions. We will now consider the inversions of the chord of the Dominant Seventh, the fundamental position of which we have just learned, and we here show them in regular order :

138.

In the first inversion the Bass takes the *third* of the primal chord. The other intervals of the chord hold the relation of *third*, *fifth*, and *sixth* to the first tone of this inversion. It is called the chord of the Sixth, Fifth and Third, or abbreviated, the chord of the Sixth and Fifth, and is figured $\frac{6}{5} \frac{3}{3}$ or $\frac{6}{5}$.

In the second inversion the Bass takes the *fifth* of the primal chord, and the other intervals of the chord hold the relation of *third*, *fourth* and *sixth* to the first tone of this inversion. It is called the chord of the Sixth, Fourth and Third, — abbreviated, Fourth and Third — and is figured $\frac{6}{3}$, or $\frac{4}{3}$.

In the third inversion the Bass takes the *seventh* of the primal chord, and the other intervals of the chord hold the relation of *second*, *fourth*, and *sixth* to the first tone of this inversion. It is called the chord of the Sixth, Fourth and Second, or abbreviated, the chord of the Second, and is figured $\frac{6}{2}$ or $\frac{4}{2}$.

Chord of the Sixth and Fifth.

139. Close position. Open position.

C: V₇ V₇ V₇ V₇ V₇ V₇

Chord of the Fourth and Third.

Close position. Open position.

C: V₇ V₇ V₇ V₇ V₇ V₇

Chord of the Second.

Close position. Open position.

C: V₇ V₇ V₇ V₇ V₇ V₇

(Compare the end of § 35.)

In natural resolution of the inversions of the chord of the Dominant Seventh into Tonic Triad, the original fundamental tone of the primal chord is retained in the *same voice*; all the other intervals lead into the tones of the Tonic Triad in exactly the same way in the resolution of the *inversions*, as in that of the *fundamental position* of the Dominant Seventh chord. Therefore the first inversion of the chord of the Dominant Seventh, the chord of the Sixth and Fifth — in which the Bass takes the *third* of the chord — *must* resolve into the fundamental position of the Tonic Triad.

Close position. Open position.

140.

C: V₇ I V₇ I V₇ I V₇ I

V₇ I V₇ I V₇ I etc.

The pupil will see that in all these resolutions the fundamental tone of the primal chord (*G*) is held in the *same voice*. The lowest tone of the chord of the Sixth and Fifth (*B*) — in the Bass — moves to *C*. The *seventh* (*F*) of the primal chord moves a step downward. The *fifth* (*D*) can just as well be led a step downward to *C*, as a step upward to *E*.

Therefore, because the *fifth* of the chord of the Dominant Seventh can be led a step *upward* or *downward*, in the second inversion of this chord, (the chord of the Sixth, Fourth and Third, in which the Bass takes the *fifth* of the primal chord) *two resolutions* are possible. It can resolve into the fundamental position, or into the chord of the Sixth of the Tonic Triad according as the Bass is led a step downward, or upward. When resolved into the *chord of the Sixth* of the Tonic Triad, the *third must* be doubled.

The resolution of the chord of the Sixth, Fourth and Third is shown in Ex. 141.

Close position.

141.

C: V_7 I V_7 I V_7 I V_7 I V_7 I

Open position.

V_7 I V_7 I V_7 I etc.

As the *seventh* must be led a step downward, the third inversion of the chord of the Dominant Seventh (the chord of the Second, in which the Bass takes the *seventh* of the primal chord) must always resolve into the chord of the Sixth of the Tonic Triad. Here follow such connections :

a. b. c. d.

142.

C: V_7 I V_7 I V_7 I V_7 I

e. f. NB. g. h.

V_7 I V_7 I V_7 I V_7 I etc.

In minor keys the chord of the Sixth, Fourth and Third, must always be fully figured $\frac{6}{4}$ and the chord of the Second at least with $\frac{4}{2}$, because the *sixth* of the chord of the Sixth, Fourth and Third, and the *fourth* of the chord of the Second, being the seventh degree of the

minor scale, must be chromatically raised. Therefore, although the chord of the Dominant Seventh, in its fundamental position as well as in all of its inversions, has the *same form* in major and minor, it is necessary to write the full figuring of the inversions in minor, as was also the case in the fundamental position. In order to familiarize the pupil with the chord of the Dominant Seventh with all its inversions in minor, we have given it complete in Ex. 143.

143.

a: V_7 V_7 V_7 V_7 c: V_7 V_7 V_7 V_7

gis: V_7 V_7 V_7 V_7

In the following exercises the triad is always especially marked with 3 or $\frac{5}{3}$ when to one and the same bass-note still another chord is to be added; so the figures 3 2, placed *one after the other*, show that the triad of the given Bass and the chord of the Second are to be placed over the same note, $3 \frac{4}{3}$ or $5 \frac{4}{3}$, that the triad and chord of the Fourth and Third are to be placed over the same note, $6 \frac{5}{3}$, that the chord of the Sixth and the chord of the Sixth and Fifth are to be placed over the same note, as shown in Ex. 144.

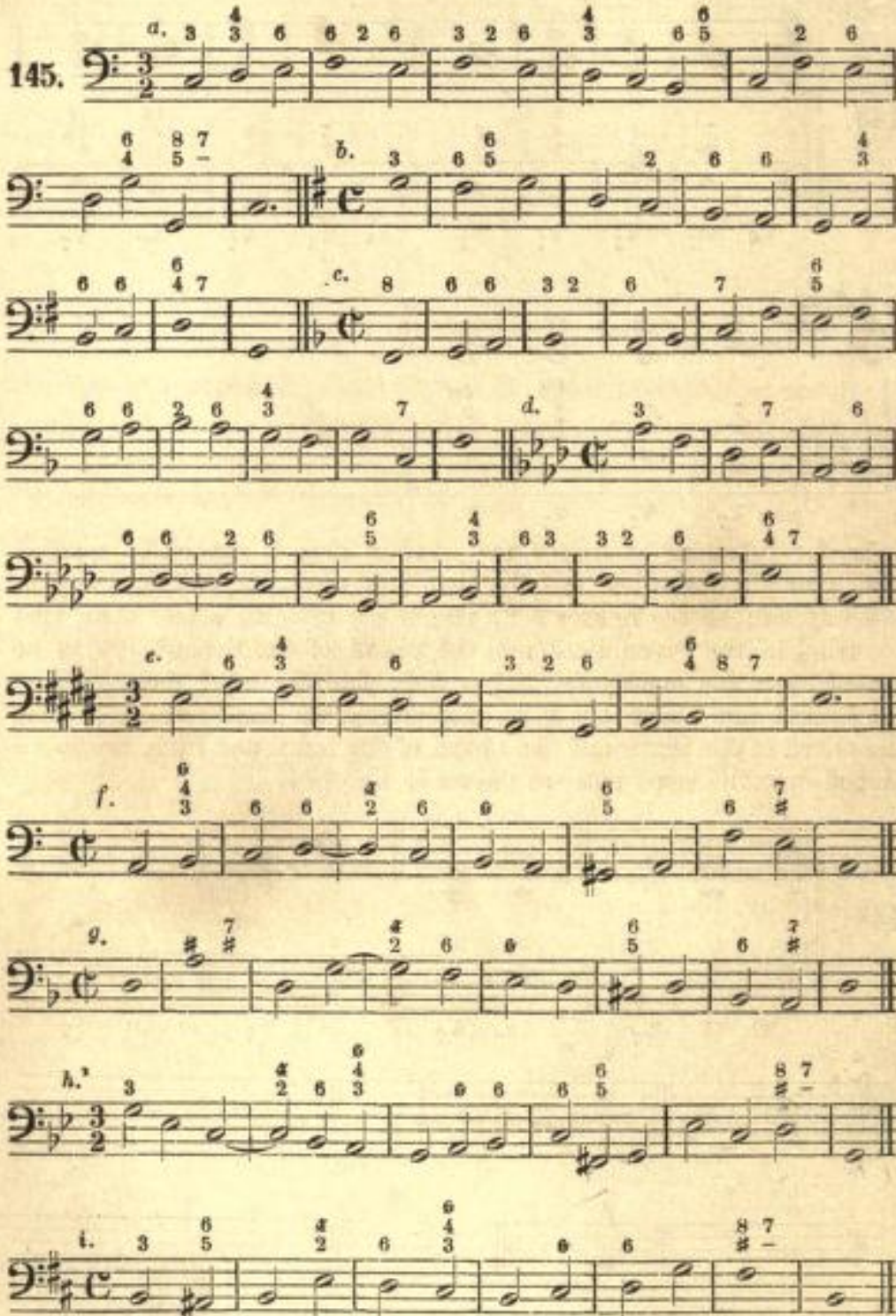
144.

C: IV V_7 IV V_7 IV V_7 II V_7

II V_7 V V_7 V V_7

The examples found in the appendix belonging to these exercises must be carefully analyzed, and the numbers written under the Bass, before working the following exercises. This must always be done before the working of *all* examples.

Exercises.

145. 

a. 3 $\frac{4}{3}$ 6 6 2 6 3 2 6 $\frac{4}{3}$ 6 5 2 6

b. 3 6 5 2 6 6 4 3

c. 8 6 6 3 2 6 7 5

d. 3 7 6

e. 6 3 6 3 2 6 4 8 7

f. 3 6 6 2 6 6 5 6 7

g. 7 2 6 6 5 6 7

h. 3 2 6 3 6 6 6 5 8 7

i. 3 5 2 6 3 6 6 8 7

Three staves of musical notation in bass clef, showing secondary chords of the seventh in various keys. The first staff is in C major (k.), the second in D minor (l.), and the third in E minor (m.). Fingerings and accidentals are indicated above the notes.

CHAPTER IX.

The Secondary Chords of the Seventh in Major and their Natural Resolution.

§ 39. In addition to the primary chord of the Dominant Seventh, secondary chords of the Seventh are found on the remaining degrees of the major and minor scales. They are formed by adding over the *fifth* of each triad a *third* which belongs to the key. We shall, at present, turn our attention to the secondary chords of the Seventh in major, and present them in C major in Ex. 146.

146. C: I₇ II₇ III₇ IV₇ V VI₇ VII₇

These differ in their construction: as chords of the Seventh with major triad and major *seventh*, on the *first* and *fourth* degrees of the scale:

C: I₇ IV₇

as chords of the Seventh with minor triad and minor *seventh*, on the *second*, *third* and *sixth* degrees of the scale:

C: II₇ III₇ VI₇

and as the Diminished Triad with minor *seventh* on the seventh degree:



The remark may here be made that *major triads* with *minor seventh* are always primary chords of the Dominant Seventh, e. g.



The natural resolution of all of the secondary chords of the Seventh in *major* — with the exception of the one on the *seventh* degree, which allows of a twofold resolution — is effected in exactly the same manner as that of the chord of the Dominant Seventh. The *fundamental* skips upward a *fourth* or downward a *fifth*; the *seventh* — no matter if major or minor — descends a whole-, or a half-step; the *third* ascends a step, when it is not preferable to make it skip downward a *third* against the *ascending* Bass; the *fifth*, in the secondary chords of the Seventh on the *first*, *second*, *third*, *fourth* and *sixth* degrees, may move either a step upward or a step downward. Only in the resolution of the secondary chord of the Seventh on the seventh degree, into the Tonic Triad, the *fifth*, in the *fundamental* position of this chord, must always be led downward. All these natural resolutions of the secondary chords of the Seventh are called **Cadencing resolutions**.

In order better to understand what has just been said, a summary table of the secondary chords of the Seventh in major with their cadencing (natural) resolutions is added.

with fifth omitted and fundamental doubled.

148. good. with fifth omitted and fundamental doubled.

C : I₇ IV I₇ IV I₇ IV I₇ IV I₇ IV I₇ IV

bad. bad.

149.

good. less good. not good. bad.

C: II₇ V II₇ V II₇ V II₇ V

bad. bad. tolerably good. good.

II₇ V II₇ V II₇ V II₇ V

150.

good.

C: III₇ VI III₇ VI III₇ VI III₇ VI III₇ VI

less good. bad.

III₇ VI III₇ VI III₇ VI III₇ VI III₇ VI

151.

rare, bad. tolerably good, but rare.

C: IV₇ VII⁰ IV₇ VII⁰ IV₇ VII⁰ IV₇ VII⁰ IV₇ VII⁰

None of these resolutions in 151 are good, because (in the triad) the leading tone is doubled.

A cadencing resolution of the chord of the Seventh on the fourth degree into the triad of the seventh degree will rarely occur and is

always liable to be faulty. All such resolutions require a doubling of the leading tone in the triad of the seventh degree. Moreover the Bass can only be led downward, because the skip upward from *F* to *B* results in a so-called Tritonus. An interval of three *whole-steps* is called a *Tritonus*. Such a tritonus between two different chords, in an upward direction must always be avoided; whereas, in one and the same chord, it is not in the least objectionable in any direction. In connecting different chords also, it can, in most cases, unhesitatingly be employed in the downward direction. The following are examples in which its application both within the same chord and in the connection of two different chords is perfectly correct and admissible.

152.

C: V V₇ V V₇ V₇ — II V₇ II V₇

good.

153.

C: VI₇ II VI₇ II VI₇ II VI₇ II VI₇ II

bad.

VI₇ II VI₇ II

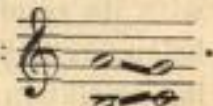
Cadencing, but rarely used resolutions of the chord of the Seventh on the seventh degree:

154. to be used.

not to be used.

VII⁰₇ III VII⁰₇ III VII⁰₇ III VII⁰₇ III VII⁰₇ III VII⁰₇ III

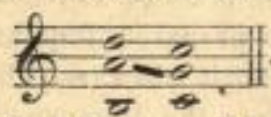
Another resolution of this chord of the Seventh, which occurs much more frequently, is that which leads into the triad of the first degree. It is founded on the natural tendency of the *leading tone*, the fundamental of the chord of the Seventh of the seventh degree, to the *octave* of the *fundamental*. But the resolution depends upon various conditions. The fundamental ascends a *small half-step* into the *octave* of the fundamental of the scale; the *seventh* descends a step:



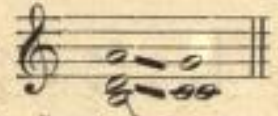
The *third* of the chord of the Seventh can in this case progress a step upward to the *third* of the Tonic Triad:



But it can also be led a step downward, if the *seventh* is the *fourth* below and not the *fifth* above it:

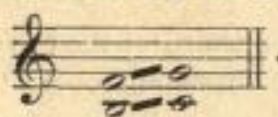


A downward progression of the *third*, when it stands to the *seventh* in relation of *fifth*, is impossible on account of the *parallel fifths*:



The *fifth* of the chord of the Seventh must always move downward a step into the *third* of the Tonic Triad. It cannot move upward, because the interval of a diminished *fifth* between it and the *fundamental* of the chord of the Seventh does not admit of its progression into the

perfect *fifth* of the triad



(See § 23.) The resolution of the chord of the Seventh on the seventh degree into the Tonic Triad is exemplified thus:

155.

	Close position.		Open position.
	7	7	7
	vii ⁰ ₇ I	vii ⁰ ₇ I	vii ⁰ ₇ I

All of these resolutions are good and occur frequently in practice. But in general, the employment of the secondary chords of the Seventh — especially in the cadencing resolutions into *triads*, as here shown, — is by far less frequent than that of the primary chord of the Dominant Seventh. Of the secondary chords of the Seventh those on the second and seventh degrees will most often occur in practice; the latter with its resolution into the Tonic Triad. However, in the exercises belonging to this chapter, we shall now and then introduce its cadencing resolution into the triad of the third degree.

§ 40. Since most *sevenths*, especially the major *seventh*, are harshly *dissonant intervals*, they require a **preparation** as well as a resolution.

A tone is *prepared*, when it already exists in the same voice as a real constituent of a chord.

The duration of a **preparation** must be at least as long as that of the dissonance following it. The prepared tone may be longer than the dissonant tone following it; but it will rarely be considered good to have the preparation shorter than the dissonance.

156. good. not good.

C: I II₇ V I II₇ V I I II₇ V I


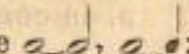

Any interval of a triad or chord of the Seventh can be used to prepare a *seventh* or any other dissonance. So the *prepared seventh*, although itself a dissonance, can in its turn form the preparation for a new dissonance*).

157.

C: V I₇ I II₇ IV II₇ I

*) The *seventh*, whether major or minor, can be the preparation for a suspension:

G: I IV₇ V₇ I

The preparation and the dissonance are connected with a tie as in the preceding example. So, a preparing note can always be tied to a note of equal value ; or a longer note to a shorter one ; but it is not so good to tie a shorter note to a longer one .

The preparation of a *seventh* (or of any dissonance) may take place both on the accented and unaccented part of the measure.

Preparation on the accented part of the measure.

158. 

C: V I₇ IV VII⁰₇ III VI₇ II V₇ I

Preparation on the unaccented part of the measure.

159. 

C: I VI II₇ V III₇ IV II₇ V I

The *seventh* of the chord of the Dominant Seventh may enter freely (unprepared) in a progression by steps.

160. 

C: VI V₇ I V V₇ I

It may also occur in a progression by skips,

1. when the *seventh* is preceded by an interval of the Dominant Triad other than the *octave*, and the freely entering *seventh*, so to speak, merely extends the Dominant Triad to the chord of the Seventh:

161. 

C: V V₇ V V₇

2. when the *fundamental of the chord of the Dominant Seventh in present in some other voice and thus prepares it*;
3. in contrary motion against the Bass:

162.

G: II V₇ I IV V₇ I

163.

C: I V₇ I V₇ I V₇ I V₇

The *seventh* of the chord of the Seventh on the seventh degree needs no preparation; it can enter freely.

164.

C: I vii^o₇ I I vii^o₇ I

The pupil will understand from the preceding exercises, that the secondary chords of the Seventh are indicated by Roman numerals with the Arabic 7 added.

Exercises.

165.

a. 3 7 7 6 2 6 7 5 7

b. 3 6 7 6 6 7

c. 5 7 7 6 5 7 6 8 7

CHAPTER X.

The Connection with one another of the Chords of the Seventh in Major, in their Fundamental Position. The Inversions of these Chords and their Connections.

§ 41. It has already been said that the cadencing resolution of the secondary chords of the Seventh does not often occur. Such progressions often have a stiff character. The connection of several chords of the Seventh in a cadencing manner, — viz. in such a way that one chord of the Seventh resolves into another situated a fourth higher or a fifth lower, is far more pliant. If the first chord of the Seventh is to resolve into the second according to the rule already known to us — that the *seventh* is led downward — it is only necessary to retain the *third* of the first chord, which thus becomes the preparation of the *seventh* in the second chord. When several chords of the Seventh follow each other in a cadencing manner, a sequence of chords of the Seventh arises, in which the *fifth* of each alternate chord is omitted.

166 a.

C: I IV₇ vii⁰₇ iii₇ vi₇ ii₇ V₇ I