VOLUME 1

Frans Elsen

Jazz Harmony

at the piano

Practical harmony method for the jazz musician

COLOPHON

Jazz Harmony at the piano (Jazz HAP) is conceived, produced and realized by Frans Elsen, professor at the jazz department of the Royal Conservatory, The Hague, Holland.

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PREFACE

JAZZ HARMONY AT THE PIANO (Jazz HAP)

During my work in the jazz departments of various conservatories and music schools I recognized a need among nonpianists for a practical textbook on the basic principles of harmony, intended specifically for the jazz musician. By nonpianists I mean all musicians, both professional and amateur, who feel handicapped by their shortcomings at the keyboard. Specifically I have in mind vocalists – for them the piano is indispensable for many reasons – and wind-instrumentalists and bass players, who may wish to accompany their students, demonstrate the harmonic aspects of jazz music in their lessons, or deepen their own insight by means of the piano. Drummers, who in many cases do not show a very profound knowledge of music beyond its rhythmical aspects, will also find it useful to widen their musical perspectives by practicing harmony at the piano. Even guitarists, although playing a chord instrument, can at times not escape the necessity to play more than six tones simultaneously; arranging for a larger orchestra using an instrument with only six strings is no easy job. Learning to know your way around the keyboard is also a great help for ear training and for an understanding of music in general, besides, it's fun! It's also conceivable, that people who are familiar with traditional harmony might be interested to learn how chords are applied in the realm of jazz.

This book does not pretend to be a piano method. The technical side of playing the piano, except the most elementary, falls outside its scope (nevertheless we can here and there still encounter the fingering of a scale or meet an arpeggio). Neither will improvisation, and everything associated with it be treated. We will discuss the keys and tones of the keyboard, intervals, chord symbols, harmonic functions, and the voice leading of chord progressions. Further, we will learn about decorating (embellishing) chords, the relation between melody and harmony, and much more. The book, however, is meant primarily to be a practical guide to playing and practicing harmony on the piano.

Jazz is, for the most part, tonal music. For this reason the material discussed in Jazz HAP predominantly follows the traditional concepts of harmony and voice leading. In my opinion, these have proven their value for centuries. Some of the subjects elaborated upon in textbooks on traditional harmony are not emphasized in this book. Little attention, for instance, is paid – with a few exceptions – to altered triads and to four-part choral-style harmony. In Jazz HAP we will almost immediately deal with seventh chords and chromaticism, both essential elements of jazz harmony. Of course, jazz harmony does not really exist, it is simply traditional harmony, sometimes supplemented with some practical simplifications and additions adapted to the specific demands of jazz music.

Prospective jazz pianists may be disappointed when they encounter the "classical-sounding" four-, or at the most five-part chord progressions in the examples. To them I wish to point out that a chord that sounds nice will merely form a good chord pro-

gression only if it properly connects to the preceding and following nice chords. This connection of chords – i.e., the melodic progression of the individual parts – is an essential element of the correct application of harmony, the foundation of which is found in the voice leading of bare triads and seventh chords. From there the "dirty chords", so greatly relished in jazz music, will follow. Sonority is not always better when it's bigger or thicker. A transparent and clear voice leading is more effective in most cases than an impressive series of "Scandinavian seventeens", especially when applied in an arrangement for wind instruments or strings. In the final analysis, the major triad is the only chord that actually qualifies as genuine. All other sonorities that we tend to call chords, even the minor triad, are basically coloured major triads, triads supplemented with moving tones, or merely moving tones simultaneously sounding.

The sections on intervals and roman symbol notation on pages V-VII can be regarded as a supplementary aid. These pages could have been placed in the appendix just as well, and therefore, can be skipped until required. The first chapter of Jazz HAP is primarily intended for those unhampered by any schooling in music theory and for whom the piano is a complete mystery. Without missing a great deal, more advanced readers can pass over these lessons, though, I would recommend glancing at them anyway. You never know!

The thought that a textbook on harmony will ever be complete is an illusion. Always matters will be missing or insufficiently illustrated. Besides, time doesn't stand still. The masters will constantly come-up with new things to which new rules apply. And that's how it's supposed to be!

In jazz HAP, special attention is paid to the relevance of embellishing chords. These are, to my opinion, slightly under-exposed in most harmony books. In jazz music, harmonic decorations are commonly used to enliven the harmonies under a melody. They present an opportunity to constantly vary the harmonization of a melody, without interfering with the global harmonic functions of the chords.

One problem in writing about a subject as extensive as jazz harmony is realizing where to stop. The moment comes when the reader must be on his own. For those who think it is enough to be able to read and play chords from a 'fake book', the first volume will probably suffice. Chapters one to seven are dedicated primarily to the practical aspects of playing chord progressions at the keyboard. The second volume, which also deals with the harmonization of a melody itself, is meant for more ambitious students. By providing a certain understanding of harmonic patterns and of the relation between harmony and melody, I hope to enable the latter category of readers to bring more variety into their harmonies, even without the help of adroit colleagues. The second volume also gives piano voicings for the somewhat more advanced players. Chords of which the bass tone (not necessarily the root) is absent are discussed, and also more attention is paid to moving tones in the middle voices of the chords. By letting theoretical justification keep pace with practicality, I attempted for both categories of readers – beginning and more advanced – to avoid theory as an end in itself.

Those who want to study Jazz HAP without the help of a teacher should realize though, that the book is no bedtime reading, but a textbook on a fairly complex subject. Understanding the subject matter requires concentration and patience. Students should not be dismayed by the terminology and symbol notation, which are unavoidable in any discipline. Besides, they will quickly become familiar with these specifics.

For carrying out the exercises successfully, the accompanying text and the analysis of the examples are a little more advanced than strictly necessary. Students should not be discouraged when they do not immediately grasp something. In such cases it is best to read on and trust that things will become clearer on second reading. Especially in the beginning, a solid understanding of the examples is more important than brooding upon the accompanying analysis. In reading chord symbols, don't neglect the voice-leading rules, but do not let them get in your way. Usually it's better to develop some fluency and lustily play on, than to struggle with the best connection of the chords.

Finally, one last – not unimportant – advice: While playing the examples and exercises, *NEVER DISCARD ANYTHING!* Always listen closely to the sound of the chords and chord progressions. A slip, a 'wrong note', or an error might turn out to be an unexpected discovery.

Frans Elsen
The Hague
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INTRODUCTION TO THE ENGLISH/AMERICAN TRANSLATION

Jazz Harmony at the Piano is based on traditional harmony as it is taught in the Netherlands. The English/American method of teaching traditional harmony differs in many aspects from the Dutch/German concept. As a result many names and descriptions are difficult to translate to the English language. In some cases understandings in Dutch/German have no appropriate equivalents in English and vice versa; or they do not exist at all.

To bridge the gap between the two concepts, I took the freedom to introduce some terminology that I think that it will contribute to a better understanding of the translation of Jazz Harmony at the Piano.

One of the guidelines I used for the American approach to traditional harmony is the book on harmony and voice leading of Aldwell and Schachter*. I more than agree with the tenor of their excellent book. Nevertheless, for my purpose, I had to deviate in some respects from their views. Instead of adopting their concept of *tonicisation*, I prefer to use the concepts *adjacent tonic* and *secondary dominant*. Instead of using the name *modulation* for a short, unconfirmed excursion to another key, I use the name *tonal excursion*.

To indicate a secondary dominant of a chord with dominant function I literally translated its german name «Doppeldominant» into *double dominant*.

To designate chords on scale degrees by means of roman numerals, I use the German practice. For example, V or Vth degree identifies the scale degree as well as the scale-tone triad on that scale degree.

I use the name *primary degree* for I, IV, and V, and *secondary degree* for the remaining scale degrees and their triads.

For Jazz Harmony At The Piano I found the traditional English scale degree names like «supertonic», «subtonic», etc. rather superfluous and therefore omitted them altogether.

I use the name *embellishing chords* for harmonically non-essential chords (decorations), to which belong chords such as *passing chords* and *approach chords*.

* Harmony and Voice Leading by Edward Aldwell and Carl Schachter, 2nd edition 1989, ISBN 0.15.531519-6.

SUMMARY OF THE THE INTERVALS

The distance between two tones is called an *interval.* An interval of which the two tones sound simultaneously is called a *harmonic* or *vertical interval.* Two tones sounding in succession, ascending or descending, form a *melodic* or *horizontal interval.* We distinguish *perfect, major, minor, augmented* and *diminished* intervals.

Between the first tone (I) and the remaining tones of the **ascending** major scale all intervals are either perfect or major intervals. Between the first tone and the remaining tones of the **descending** major scale the intervals are perfect or minor intervals.

ASCENDING C MAJOR SCALE:

$c \rightarrow c$ = perfect prime (unison)
$c \nearrow d$ = major second
$c \nearrow e$ = major third
$c \nearrow f$ = perfect fourth
$c \nearrow g$ = perfect fifth
$c \nearrow a$ = major sixth
$c \nearrow b$ = major seventh
$c \nearrow c$ = perfect octave

DESCENDING C MAJOR SCALE:

$c \rightarrow c$ = perfect prime
$c \searrow b$ = minor second
$c \searrow a$ = minor third
$c \searrow g$ = perfect fourth
$c \searrow f$ = perfect fifth
$c \searrow e$ = minor sixth
$c \searrow d$ = minor seventh
$c \searrow c$ = perfect octave

A tone can be named after an interval with reference to a particular scale or chord. In that case, the name of the tone refers to the interval which is formed between the tone in question and the tonic of the scale (I) or the root of the chord. For example, *g* is called "the 5th" of the C scale, "the 3rd" of the $E^{\flat}$ triad, and "the 4th" or "the 11th" of Dm7.

Octaves, fifths and fourths and their compound intervals (see below) can only be perfect, augmented and diminished. By lowering its higher tone or raising its lower, a perfect interval becomes diminished. By raising its higher tone or lowering its lower, a perfect interval becomes augmented.

As there is no higher and lower tone in a perfect prime (unison), this interval can only be perfect or augmented.

Seconds, thirds, sixths and sevenths and their compound intervals can be major, minor, diminished and augmented.*

COMPOUND INTERVALS:

Octave + second = 9th
Octave + third = 10th
Octave + fourth = 11th
Octave + fifth = 12th
Octave + sixth = 13th

By lowering its high tone or raising its low tone, a major interval becomes minor, and a minor interval becomes diminished.

By raising its high tone or lowering its low tone, a minor interval becomes major, and a major interval becomes augmented.

*Second and seventh, third and sixth and fourth and fifth are called *complementary intervals.* If superimposed, these intervals form an octave.

ROMAN NUMERAL CHORD SYMBOLS

One designates scale-tone chords on scale degrees by means of roman numerals. For example, VI identifies the sixth scale degree as well as the root position of any scale-tone chord on that degree. To indicate a seventh chord, one normally adds a 7 to the roman numeral, e.g. VI^7.

The notation of chords in roman numerals originates from the *figured bass* or *continuo* practice from the Baroque period. A similar practice is used in jazz by using chord symbols, usually letter symbols, under a melody, or as a guideline for improvisation. Roman numerals in jazz are applied when a more overall harmonic analyses, independent of a key, is required.They can slightly deviate from their traditional form. Extended chords applied in jazz cannot always properly be expressed in roman numerals. It is essential to maintain a consistent notation for chord symbols, making sure they can be clearly understood.

Since roman chord symbols make use of scale tones, there is a subtle difference between the 7 in roman symbols and the 7 in letter symbols, such as C7, Am7 and G7. In the roman numerals the 7 can represent a major, minor or diminished seventh, depending on the scale and scale degree. Consequently, the 7 in I^7 from major indicates a major 7th and the 7 in VII^7 from harmonic minor a diminished 7th, while in a letter-chord symbol the 7 in these cases normally indicates a minor 7th and a diminished 7th respectively. In roman chord symbols II^7 in the key of C major indicates a minor 7th chord on II (Dm7) instead of the non-scale-tone chord D7, the 3rd of which ($f^\sharp$) being a non-scale tone in C major.

When another chord tone than the root of the chord is in the bass, one speaks of an *inversion* of the chord. Only chord tones, i.e. 3rd, 5th and 7th, can be applied as bass tone of an inversion. In traditional harmony, chord extensions and added tones do not occur in the bass.

INVERSIONS OF TRIADS:

- Triad with 3rd in the bass = *six chord.* The chord symbol consists of a 6 added to the roman numeral of the scale degree:
  For example: I^6 or II^6; in C respectively: $C_{/E}$ or $Dmi_{/F}$.
- Triad with 5th in the bass = *six-four chord.* The chord symbol consists of $^6_4$ added to the roman numeral of the scale degree:
  For example: I$^6_4$ or IV$^6_4$; in C respectively: $C_{/G}$ or $F_{/C}$.

INVERSIONS OF 7TH CHORDS:

- Seventh chord with 3rd in the bass = *six-five chord.* The chord symbol consists of $^6_5$ added to the roman numeral of the scale degree:
  For example: V$^6_5$; in C: $G7_{/B}$.
- Seventh chord with 5th in the bass = *four-three chord.* The chord symbol consists of $^4_3$ added to the roman numeral of the scale degree:
  For example: III$^4_3$; in C: $Em7_{/B}$.
- Seventh chord with 7th in the bass = *two chord.* The chord symbol consists of ^{2} added to the roman numeral of the scale degree:

For example: V^2 or VI^2 ; in C : $G7_F$ or $Am7_G$.

To grasp the logic of the roman names for the inversions of chords, we have to look at the intervals (not compounded) between each of the chord tones – i.e. the root, the third, the fifth, and the seventh – and the bass (not the root) of the chord. These intervals are represented by figures, following the roman numeral. It is common practice to write the higher figure above the lower one.

Normally, the names of the inversions are shortened. For example, the full name of the six-five ($\frac{6}{5}$) chord would be six-five-*three* chord. Four-three ($\frac{4}{3}$) is *six*-four-three, and a two chord (^{2}), in which the 7th is in the bass, in reality is a *six-four*-two chord.

All this may seem rather complicated, but in time one easily becomes familiar with the system.

When a scale degree is raised, a sharp ($\sharp$), and when it is lowered, a flat ($\flat$) is placed in front of the roman numeral. For example, $\sharp$IV or $\flat$II.

An augmented interval over the bass is indicated by a sharp and a diminished interval by a flat in front of the figure in question. For example, $\sharp IV^{\sharp\frac{6}{5}}$ means *augmented six-five chord on the raised* IV. This chord originates from harmonic minor, of which the 4th tone has been raised. The sixth over the bass is augmented and the root of the chord on IV is raised.

The notation in roman numerals requires that the key and mode, i.e. the scale, is known. When the melody is given, the key and mode can usually be determined from the signs at the clef. Without given melody, or when the key and mode are ambiguous, or at the point of a modulation or *tonal excursion**, it is required to indicate the key and mode. In traditional harmony, a major key is indicated by a capital letter and a minor key by a small letter. For example:

A: II^7 V^7 | I^7 || means: Bm7 E7 | AΔ || and

c: I VI^7 | II^7 VII^7 | I^7 || means: Cm $A^{\flat}\Delta$ | $D^{\varnothing}$ B^{o} | CmΔ ||

At a modulation or tonal excursion the key or mode changes, and consequently the letter indicating the key or mode will change with it.

The harmonic minor scale is normally used as standard reference for minor. When the chord originates from another scale than harmonic minor, a flat, sharp, or natural sign may precedes the roman numeral or the interval figure as illustrated in following examples.

Using harmonic minor as reference, VI from melodic minor can, depending on the signs at the clef, be indicated by $\natural$VI or by $\sharp$VI; in C melodic minor: $A^{\varnothing}$. Likewise, the major 7th chord on the lowered VII is indicated with $\flat VII^{\natural 7}$ or with $\natural VII^{\sharp 7}$. This chord originates from the the less common mixolydian or dorian scale; in C dorian or C mixolydian: $B^{\flat}\Delta$.

Secondary dominants are usually placed between square brackets, e.g. [$V^{(7)}$] or [$VII^{(7)}$]. A secondary $II^{(7)}$-$V^{(7)}$ progression is indicated by [$II^{(7)}$-$V^{(7)}$] and a tritone related secondary dominant by [TRV^7]. As in jazz one applies predominantly 7th chords, the 7th can usually assumed to be present and therefore is often omitted in roman-numeral notation.

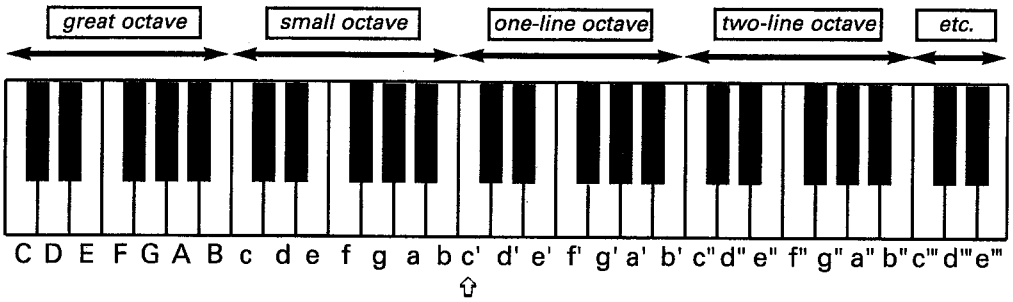
* Short, unconfirmed modulation.

CHAPTER 1

INTRODUCTION TO THE KEYBOARD AND THE THEORY OF HARMONY

In order to acquire some skill in playing harmonies on the piano, it is necessary not only to have a fairly good ear, but also to be familiar with the keyboard and to develop a certain degree of understanding of the laws of traditional harmony. To get to this stage, it is first essential to become acquainted with the order and the names of the keys of the keyboard of the piano and from there on with the basic elements of the theory of harmony: intervals, triads and scales.

Lesson 1 Names of the keys



1.1 The figure above shows a keyboard. From now on we will call a picture like this a *keyboard diagram*. The keyboard in this diagram has a range of four octaves plus a major third (see below). The upright piano has a bigger range and a grand piano still bigger. The range of the keyboard in the above diagram is, for the time being, sufficient for our purpose.

1.2 Underneath the white keys of the keyboard are letters. These are the names of the tones we hear when the white keys are struck. Within the space of eight successive white keys a fixed pattern of seven letters is repeated. The tones of this basic series of seven tones, named after the first seven letters of the alphabet starting with *c*, will be called *prime tones*. We see four groups of seven letters plus a small group of three letters on the right. In order to identify the groups, the letter names are uniquely marked; from left to right: capital letters, small letters and small letters with accent marks (small vertical lines); one line, two lines, and – in the last small group – three lines respectively.

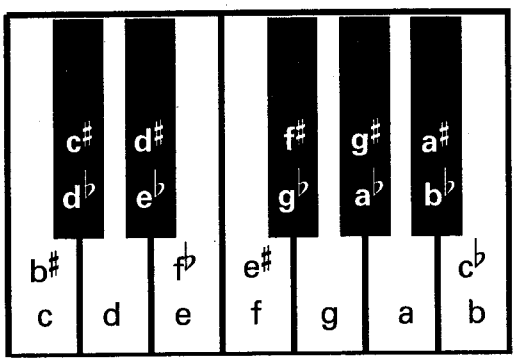
1.3 Likewise, the groups of tones as indicated in the keyboard diagram are named *great octave* (capital letters), *small octave* (small letters)* *one-line, two line* and *three-line octave* etc. One-line *c* (*c'* above the arrow) is also called *middle* or *central c*, as its position is roughly in the middle of the keyboard, near the keyhole.** The distance between tones is an *interval*, named after the number of letter names the tones are apart, counting the starting tone as 'one'. For example, an *octave* spans the distance of eight letter names; the interval *c'"*-*e'"* spans

* The octaves below the great octave (not indicated in the diagram) are called contra (e.g. C_1) and sub-contra octave (e.g. C_2).

**This marking of letter names will only be used where necessary, e.g. to indicate a specific pitch or key location. Marking is omitted when not relevant.

three letter names and is therefore called a third. Normally, the first letter of an interval is the lower pitch. As we have seen in 1.1, the keyboard in the diagram covers a range from *C* (-great octave) to *e'''* (= three-line *e*), i.e. a range of four octaves plus a (major) third.

1.4 Besides white keys the keyboard has black keys divided in groups of two's and three's. After every *c* there is a group of two, and after every *f*, a group of three black keys. This division of black keys makes it possible to orientate on the keyboard. Their musical significance will become clear after we learn about chromatics and keys* other than C major. A black key takes its name from either adjacent keys. It raises the one to the left by a half step (sharp ♯), or lowers the one to the right by a half step (flat ♭). For example: the first black key after *c* is called *c*♯ (*c*-sharp) or *d*♭ (*d*-flat); the second one *d*♯ or *e*♭, the third one *f*♯ or *g*♭, etc. Adjacent white keys may also borrow each other's names such as *c*♭ and *b*♯.

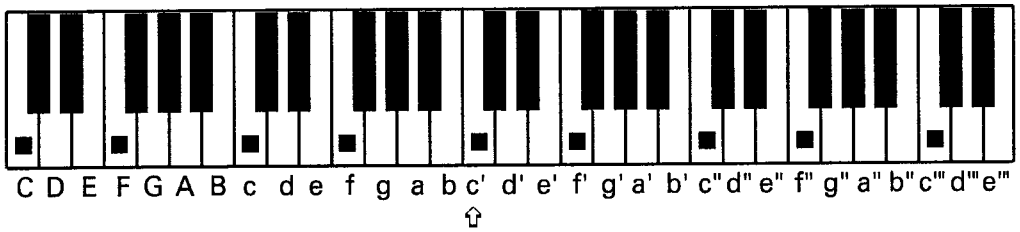


Exercises:

✔ Find all the *c*'s on the piano. Make good use of your ears. They all sound the same except one octave higher or lower.

✔ Slide with the nail of your right middle finger over the white keys from low *C* all the way up and, with the nail of your right thumb, from *c'''* down. You will hear the C major scale.

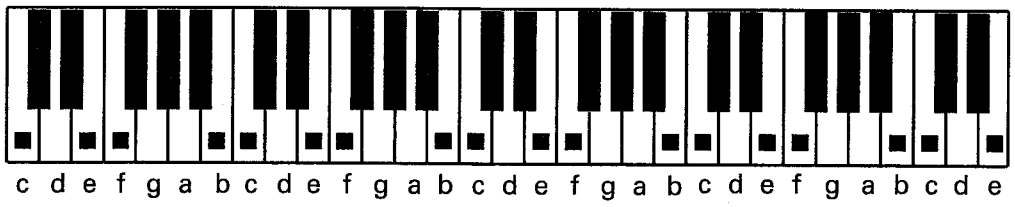
✔ Find all *f*'s on the piano. Now play an *f* after every *c*. When you play an *f* to the right of a *c*, you'll hear an interval of a fourth (4 prime tones, i.e. four letter names). When you play an *f* to the left of a *c*, you'll hear an interval of a fifth (5 prime tones, i.e. five letter names). Make good use of your ears again and try to recognize the interval.



✔ Now, do the same exercise with *e* and *b*. You will hear the same intervals, only the other way around: *e-b* is a fifth and *b-e* is a fourth.

* 'Key' in this sense means something like 'tonal center'. Not to be confused with the key of a keyboard. (See also lesson 6)

✔ Play *c-e-f-b-c* up over the whole range of the keyboard. Make it a habit to do exercises in tempo. Not fast but fluently. If you get stuck, play more slowly. If necessary use a metronome and give every tone 2 or 3 beats. Take your time.



✔ Make up similar exercises yourself. Play them and say their names out loud in order to learn your way around the white keys fluently. After that you can include the black keys.
First play the flats ascending: *c-d♭-e♭-f-g♭-a♭-b♭* and after that the sharps descending: *b-a♯-g♯-f♯-e-d♯-c♯-b*. In the end, mix them up.

Lesson 2 The triad in root position

Now that we've learned our way around the keyboard, we can, very carefully, start with some simple chords. In 1.3 we saw the major third, and in the exercises the fourth and the fifth. In this lesson we will learn what is meant by a triad.

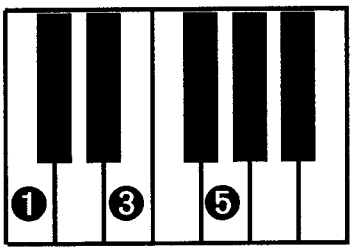
2.1 A *triad* is not the sound of just any three tones. A specific order of the tones makes them a triad. A chord, consisting of three tones which are a third apart, is called *the close position of a triad in root position*. The *root* of this triad is at the bottom, in the bass. It is the smallest triad possible. The tones of the triad can also be in a different order. We still have a triad, but in positions we will discuss in section 3.1.

2.2 The triads on the white keys all look alike at first sight, but when we listen to them closely, we observe that some sound different from others. That is because the triads on *c, f* and *g* are major triads and the ones on *d, e* and *a* are minor triads. A major triad is composed of a minor third on top of a major third. The construction of a minor triad is the other way around: it consists of a major third on top of a minor third. Notice the difference! The triad on *b* is an outsider. It is constructed from 2 minor thirds. We will see later about that one in section 3.2

Exercises:

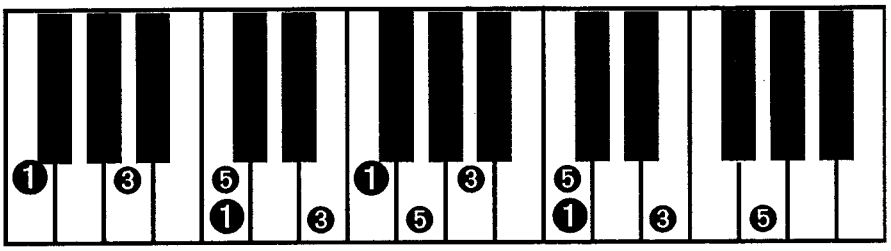
✔ Play 2 keys at the same time with your right hand thumb (1st finger) and middle finger (3rd finger), on respectively *c'* and *e'*. Do not cramp. I know it's easier said than done. Keep the fingers you don't use near the keys and don't pull them up like the legs of an excited spider! Relax and drop them. Practice until it feels comfortable. The most important thing is that the arm is relaxed.

Just let it hang down and lean on the two fingers. Now put your little finger (the 5th finger) on *g'*. Remember the form the hand took. Next, put your hand in the same position, but one tone higher. The thumb goes to the root of the next triad on *d'*. Repeat that movement a few times back and forth and let your hand dangle a bit when the fingers leave the keys, but remember the position the hand was in when you heard the chord. You successively played the triads of C major and D minor. The chord symbols are C and Dm.

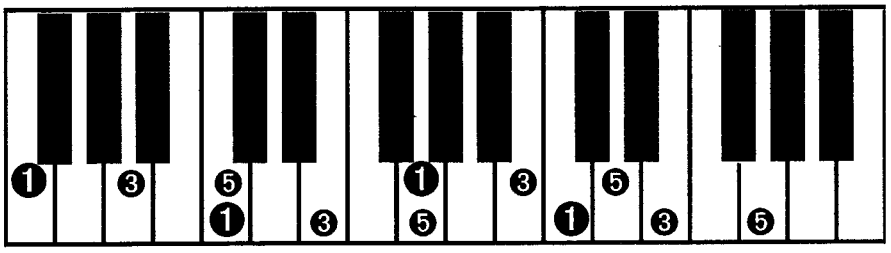


✔ When you've become at ease doing the exercises, you can play a triad on any other white key. Start with moving triads stepwise up and down the keyboard. Do it again slowly but 'in time' and think along with your fingers. Don't forget your left hand. Occasionally a piano player uses two hands.

✔ Next, practice making little leaps with the hand playing the triad. For example in this order: put the 1st finger (thumb) on *c* and after that on *f*, on the next *c* and so on (see diagram). Play the triads this way over the entire keyboard.



✔ Play the triad with the 1st finger on *f*, on *c*, on *g* and on *c* (see diagram). Repeat the same pattern, one octave higher. Try to play in tempo.



We hear all the tones of the scale of C in thirds (NB!).

2.3 There's one part of the piano that we haven't dealt with yet. That part is the pedal. The piano player can use two pedals: the right and left one. The right one lifts the mutes from the strings so their vibration sustains after they have been struck by the hammers. Lifting the mutes, also allows other strings to vibrate concurrently. The one on the left brings the hammers closer to the strings, so they have less speed when the strings are hit. This softens the sound

a bit. This last pedal functions somewhat differently on a grand piano, in which the whole mechanism moves to one side, so that the hammer touches one string less of a chord of strings. This system brings down the volume, but it also alters the colour of the tone. Because both pedals, if not handled with care, can do more wrong than right, I advise the reader to use them with care.

Lesson 3 Inverting the triad

In lesson 2 we were introduced to the root position of triads. In this lesson the other positions of the triad are discussed. For the time being the right hand is our main concern, although the part of the left hand is not without meaning. It will become clear, however, that learning to use the right hand alone is difficult enough. So take your time and try not to cramp!

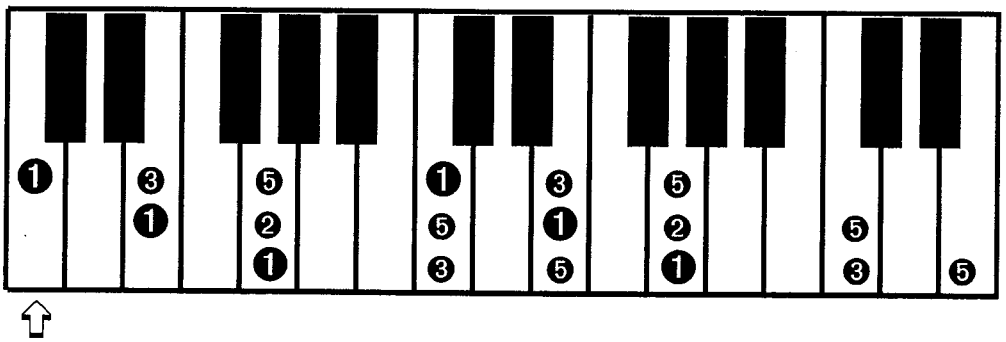
3.1 To invert a triad, the order of the tones has to be changed. In the first inversion, the root – which was at the bottom (in the bass) – goes to the top, i.e. one octave up. In the second inversion, the bottom tone of the first inversion goes to the top. Because a triad consists of three tones, it has three positions:

1.	root position	*c'-e'-g'*
2.	the first inversion	*e'-g'-c"*
3.	the second inversion	*g'-c"-e"*

Each inversion of the triad has its own name, but for the time being, this is not of real importance to us. In the above table the triads are mainly in the one-line octave. Of course this could have been any octave higher or lower. The choice for this particular octave has been made because this piano register sounds good for this purpose and because the middle *c* is a comfortable place to start.

Exercises:

✔ Place the 1st finger (thumb) on the middle *c* (arrow, see diagram) and play a triad in root position, like you did in lesson 2. The 3rd finger is on *e'* and the 5th on *g'*. Then put the 1st finger on *e'*, the 2nd on *g'* and the 5th on *c"* and play the chord. You'll hear the first inversion of the triad of C major. Now you place the 1st finger on *g'*, the 3rd on *c"* and the 5th on *e"* and play the chord



again. This is the second inversion of the C triad. Remember the advice in lesson 2: relax your hand and arm. Also remember the position of the hand with each inversion. This fingering has proven to be the most comfortable one. Apply this as much as possible.

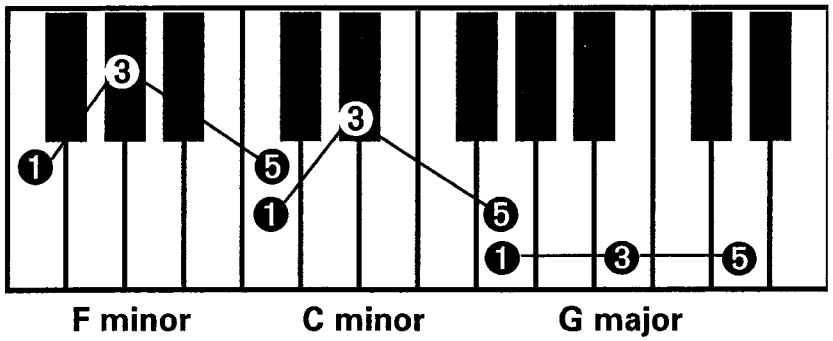
✔ When the previous exercise goes reasonably well, put the little finger (5) of the left hand on *c* great or small octave (in the bass) and play the inversions with the right hand. Increase the tempo steadily, but don't forget to relax the hand and the arm and remember the position of the hand with each inversion.

✔ In the next exercise you start at *d'* and invert the triad of Dm. Then the triad of Em, F and so on, until you reach C again. With your left hand in the bass play the root of the chord you are playing with your right hand. Vary the exercise a bit by playing the inversions as arpeggios (playing the tones one after the other), one arpeggio up and the next one down. Do these exercises daily, with all the triads you know. Eventually you will do it more or less automatically.

3.2 There is one triad we have not dealt with yet. In section 2.2 it was called an outsider. That is the triad on the *b*. This triad is called a *diminished triad* . When you play it on the keyboard, it becomes clear that there is quite a difference between this one and the other triads. This is a *dynamic chord* which is not really suitable as a final chord of a piece of music. It is enclosed by a diminished fifth and is part of an important dynamic chord, to which we will come in section 5.2. Try also to invert this triad in the same way as you did the others.

Lesson 4 Triads in minor

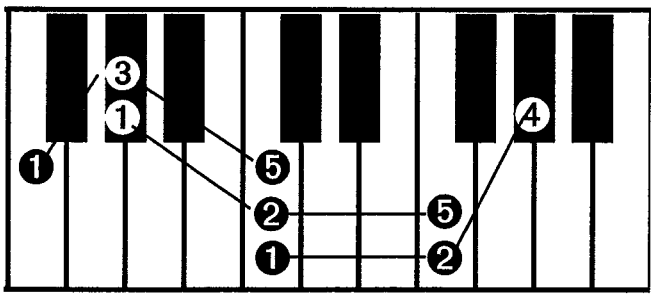
4.1 To understand minor keys really well, we have to go back to the exercise in lesson 2. There we played successively the major triads of F, C and G. If we turn the triads of F major and C major from this exercise into two minor triads, we see the tones of the complete scale of C harmonic minor. Not stepwise, like a scale normally is being played, but in thirds. With the triad of F minor, the third finger is on $a^{\flat}$ and with the triad of C minor, the third finger is on $e^{\flat}$ (see diagram).



Exercises:

✔ Play the triads from the above keyboard diagram over the entire range of the keyboard. After the triad of G major you play F minor, C minor and G major and so on. Keep your fingers in line with the keys!

✔ Invert the triads of F minor and C minor and play them up and down the keyboard. In the diagram you see the fingering of the triad of F minor. The fingering of C minor is identical.



4.2 Because there are two black keys in C harmonic minor, the triads are a little harder to play than the ones in C major. The position of the hand changes constantly. In harmonic minor are two diminished triads: one on *b* and one on *d*. On the $e^{\flat}$ we find a triad which we have not met before. This is called an *augmented triad.* It consists of two major thirds and is enclosed by an augmented fifth. Below you find the triads on the tones of the C harmonic minor scale with their chord symbols:

On *c* is C minor	=	Cm(i)
On *d* is D diminished	=	Dm/–5
On *e* flat is $E^{\flat}$ augmented	=	$E^{\flat}$+ or $E^{\flat}$/+5
On *f* is F minor	=	Fm(i)
On *g* is G major	=	G
On *a* flat is $A^{\flat}$ major	=	$A^{\flat}$
On *b* is B diminished	=	Bm/–5

Lesson 5 The seventh chords

In the following exercises a triad is inverted with the right hand, while the left hand plays a tone that is a third (or a third plus one octave = a tenth) lower than the root of the triad. Four different tones are played. The triad has been extended into a four-part chord. The lower tone is a third (or a tenth) away from the root of the triad. A four-part chord like that is called a *seventh chord in root position.* On the white keys: A major triad plus the extra tone at the bottom gives a *minor seventh chord,* and a minor triad (except D minor) gives a *major seventh chord.*

Exercises:

✔ Play: *c* with the left hand in the bass and right the inversions of Em.
f in the bass and right the inversions of Am.
d in the bass with the inversions of F.
g in the bass with the inversions of B diminished.
Finish with the combination of *c* and Em.

Try to make music out of this exercise by giving it a beat, and making up some rhythmic variations.

✔ Play (with the right hand) a Cm triad in root position and (with the left) $a^{\flat}$ in the bass. It is not important in which octave you play the $a^{\flat}$, as long as it is underneath the triad. We hear an $A^{\flat}\Delta$ chord (= $A^{\flat}$ major 7). The major 7 (Δ) is the interval between root and top tone (lead).

5.1 With the white keys we can construct the following seventh chords by combining a triad with an additional bass:

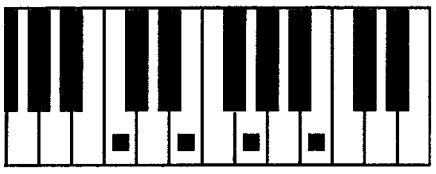
Em with *c* in the bass	=	C major 7 (CΔ)
Am with *f* in the bass	=	F major 7 (FΔ)
C with *a* in the bass	=	A minor 7 (Am7)
F with *d* in the bass	=	D minor 7 (Dm7)
G with *e* in the bass	=	E minor 7 (Em7)

5.2 The diminished triad on *b* with *g* in the bass, played in the exercise above, shows the important seventh chord implied in 3.2. It is called *dominant seventh chord* with the symbol G7. It's a chord we would like to resolve to a major or minor C chord. It is not a chord you really would use as a final chord, except maybe in bluesy endings. Therefore, also it is called a dynamic chord. Dynamic chords usually generate harmonic motion.

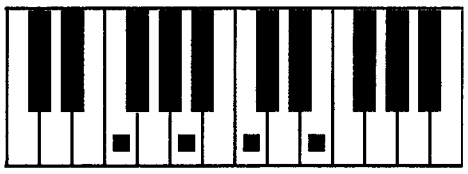
Exercises:

✔ Play CΔ and FΔ, as mentioned in 5.1, with your right hand and practice them in all octaves.

CΔ

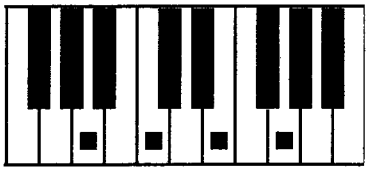


FΔ

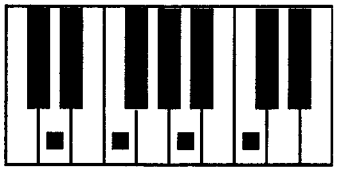


✔ Play the minor 7th chords mentioned in 5.1 and practice them over the entire range of the keyboard.

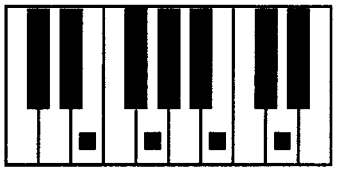
Am7



Dm7

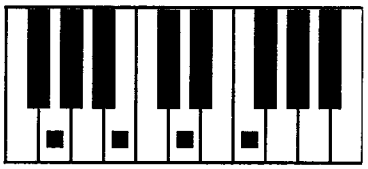


Em7

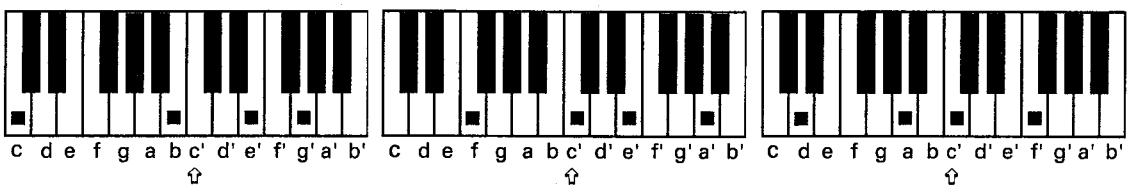


✔ Play the G7 chord mentioned in 5.2 and practice it over the whole range of the keyboard.

G7



5.3 In the above exercises the seventh chords are in the *close position,* which means that in between the tones of the chord no space is left for other chord tones. This changes when the root is put one (or more) octave(s) down, allowing the other chord tones to be positioned more spread out. A chord position with room for other chord tones between some of the tones, is called a *mixed* (e.g. *drop-two* or *drop-three*) *position.* The chord is in *open* (or *wide*) *position* when there is space for another chord tone in between all chord tones. The keyboard diagrams below show examples of the above-mentioned seventh chords in mixed position. It's obvious that there is still space for chord tones between some tones, whereby the area between root and next higher chord tone is not taken into account. Also the term *voicing* is used to indicate the positioning of chord tones other than that of the bass.



Exercises:

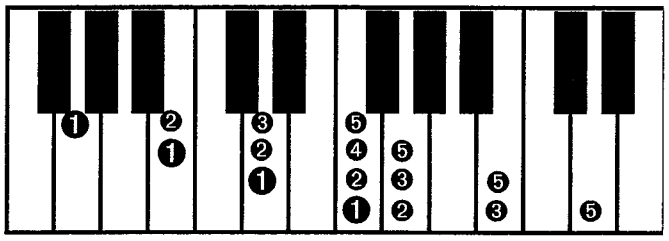
✔ Play the chords in the above diagrams on the piano and determine what chords they make up. Try to memorize them.

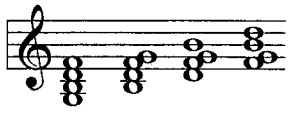
✔ Notice which tones allow room to insert one or more chord tones and which chord tones they are. Try to add them while playing.

✔ Slowly invert the seventh chords in close position and practice them over the whole keyboard.

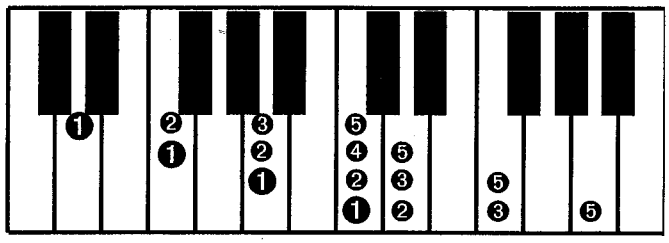
✔ The keyboard diagrams below show the fingering of the inversions of G7 and Dm7. The inversions of Am7 and Em7 have the same fingering. If the root position of the chord and the upward octave shift of the root are projected on the keyboard, then, after some practice, the inversions will show automatically. Make good use of the fact that the piano is a visual instrument, but above all: don't forget to listen!

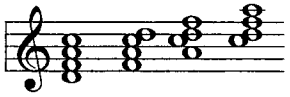
G7





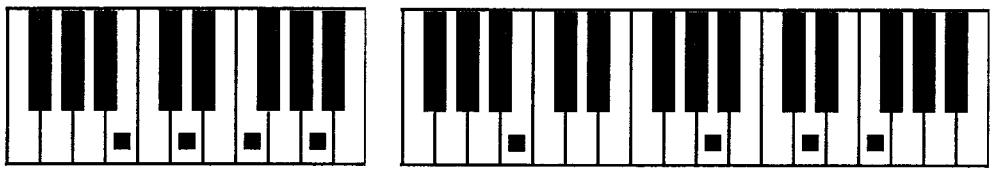
Dm7





5.4 The Dm triad with *b* at the bottom is the only chord in the series of seventh chords on the white keys that hasn't been discussed yet. It is called B *half diminished.* The chord symbol is $B^{\varnothing}$. In the diagram below you will find it in close and mixed position.

$B^{\varnothing}$



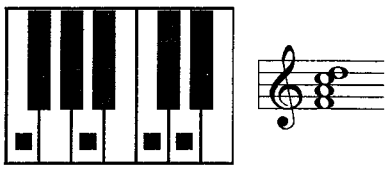
5.5 We've now met all seventh chords on the white keys, i.e. using the tones of the scale of C. They are called the seventh chords on the *scale degrees* of C major. The degrees are a numerical name for the scale tones. They relate to the chords which are made up of the tones of the scale. The chords we've been talking about in this chapter are the *seventh chords on the degrees of the scale of C major.* The scale degrees are noted in Roman numerals. The chord on the first tone of the scale gets the number I, on the second tone II, etc. See below:

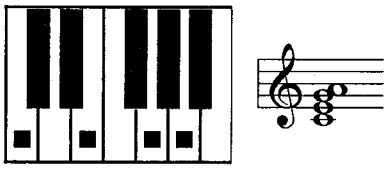
I	=	$C\Delta$	=	C major seven
II	=	Dm7	=	D minor seven
III	=	Em7	=	E minor seven
IV	=	$F\Delta$	=	F major seven
V	=	G7	=	G (dominant) seven
VI	=	Am7	=	A minor seven
VII	=	$B^{\varnothing}$	=	B half diminished

5.6 Although the seventh in traditional harmony is a tone that creates motion, this extension of the triad is often used as a colouring of *static chords* (see below) in jazz. This colouring is a matter of taste, like pepper in soup, and is in fact not always appropriate. The colouring of the triad – both major and minor – especially by the major seventh, is, in many cases, redundant and often

a rather irritating automatism. To avoid the conflict, which the major seventh can bring about, and still give a bit of a 'glow' to the harmony of a static chord, adding the sixth (or the ninth, which we will encounter later) to the triad, is often a more tasteful option.

5.7 By static chords we mean the chords of the Ist and the IVth degree. If we add the sixth to these chords, we get, on the white keys, C6 and F6. There is no need to practice these chords on the piano. They are identical with the first inversion of respectively Am7 and Dm7 (NB!).

F6 

C6 

Lesson 6 The black keys, harmonic functions and the circle of fifths

Until now we have been looking at all the white and two of the black piano keys in respectively the scales (keys) of C major and C harmonic minor. But even in C major – the 'white-keys key' – the black piano keys are indispensable, if we don't want to fall into a rather colourless harmony.

6.1 The use of black piano keys in the key of C major is called *chromaticism*. It can occur in any other major key. It can be taken to mean 'colouring', which should not be confused with the meaning it takes on when we are referring to the colouring of chords (as in section 5.6).

6.2 The black keys are often erroneously called half steps or half tones. In fact there are also two half steps (half tones) in the scale of C major without any black keys being used. Between *e* and *f* and between *b* and *c* it is impossible to insert a tone, consequently there are no black keys.

In lesson 1.2 we have read that the tones of the C major scale are called prime tones. The names of the black keys are derived from the names of the prime tones. A stepwise succession of two or more prime tones, i.e. tones with different letter names, or of tones which names are derived from different prime tones, is called a *diatonic succession,* e.g.: *c-d*, *c-b*, *e♭-f*, *f♯-g*, etc. If it's not possible to insert another tone in between two tones of a diatonic succession, e.g.: *b-c*, *f-e*, *b♭-a* etc., the interval between the tones is a *diatonic half step*.

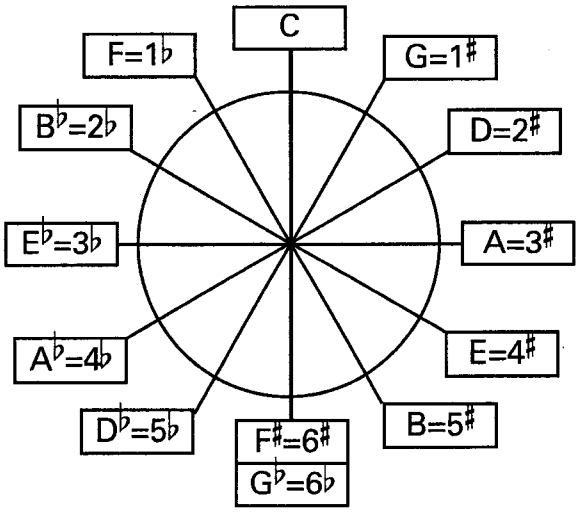
A succession of two (or more) tones derived from the same prime tone, i.e. with the same letter name, for example *c-c♯*, *b-b♭*, *f♯-f-f♭*, etc., is called a *chromatic succession*, and the interval between the successive tones a *chromatic half step*. In the **major scale** of any key there is a diatonic half step between the third and the fourth, and between the seventh and the eighth tone. The black keys are used in scales other than C major, to keep the intervals between the tones in the same order as in the C major scale.

6.3 Everything falls into place if one proceeds from the superimposed triads of the *primary degrees* I, IV and V. In lesson 2 you find an exercise in which you are asked to play the triads of F, C and G successively over the entire keyboard. The exercise shows the tones of the scale of C major, not in successive steps but in intervals of thirds. **The tones of the superimposed triads of IV-I-V form the tone material of a key.** Each of these triads has a so-called *harmonic function*, and these three functions rule the harmony of all tonal music. The one in the middle – the C triad (I) in the exercise – is called **TONIC** (*tonal centre*). The one at the top – the G triad (V) – is called **DOMINANT**, and the one at the bottom – the F triad (IV) – is called **SUBDOMINANT**. In tonal music *the scale is nothing more than the stepwise organization of the tone material of a key*. Maybe now it's becoming clear where this apparently coincidental but, in our ears, logical order of tones in a scale originates from.

6.4 In minor, things are essentially the same, with the following difference: the middle triad (tonic) is always a minor triad, the one at the bottom (subdominant) is usually, but certainly not always, a minor triad. The one at the top (dominant) occasionally can be a minor triad too. See lesson 7.

6.5 In the *circle of fifths* (see diagram below) the keys are organized in ascending fifths, in which the number of sharps in the key signature* increases when going clockwise. After 12 keys we end up at C again, now called B♯. Since B♯ is a key with the quite impractical number of twelve sharps, an *enharmonic change* is made at F♯, which has 6 sharps. It is renamed G♭ with 6 flats. From there on the sharp keys turn into flat keys. Note that the number of signs decreases again. Going around the circle counterclockwise, you see the opposite happening: a series of ascending fourths (or descending fifths) in which, after

THE CIRCLE OF FIFTHS



* These are the sharps and flats appearing at the beginning of the staff.

12 keys, we come back to the starting point, C, which is called D$^{\flat\flat}$ (D double flat). With its 12 flats D$^{\flat\flat}$ is as impractical as the 12 sharps in B$^{\sharp}$. Halfway around, or at the bottom of the circle are F$^{\sharp}$ and G$^{\flat}$. These are the antipodes of C and divide the number of 12 signs (flats or sharps) by two. It is easy to derive dominants and subdominants from the circle of fifths: clockwise the dominant is one position after, and the subdominant one before the tonic.

Assignment:

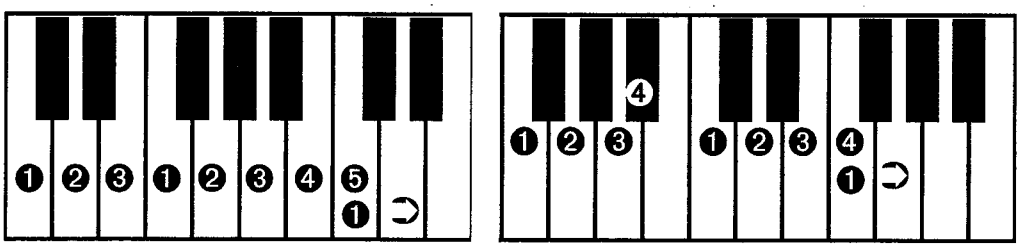
✔ Learn the circle of fifths by heart, and be able to recite it fluently, without having to think.

6.6 In the scale, the new sharp is always a fifth above the previous sharp. It is the seventh tone in the scale. The new flat is the fourth tone in the scale: a fourth above (fifth below) the previous flat (NB!).

Although piano technique is not our main goal, knowledge of the scales is a great help to get to know your way around the keyboard in all keys. We certainly will make use – though not in the customary technical sense – of this practical stepwise arrangement of the tone material of a key.

Exercises:

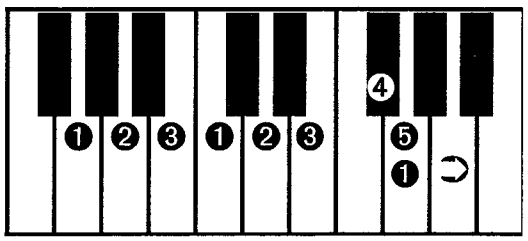
✔ Look at the diagrams below in which you see the fingering of the scales of C and of F (major) in the right hand. Try to play them with the given fingering. Remember that the fourth tone of the scale of F is *b*$^{\flat}$ and not *b*; a black key and not a white one. There is a half step, as we know, between the third and the fourth tone. While playing the scales, remember to keep your fingers aligned with the keys as much as possible, especially when shifting to the thumb in an ascending scale, and shifting to the 3rd and 4th finger over the thumb in a descending scale.* If you don't align your fingers with the keys, the hand will be in a too awkward position to play the scale properly.



✔ First play the triads on the keyboard, and after that the seventh chords on the degrees of the scale of F, as we did in the key of C. Pay attention to the *b*$^{\flat}$ you want to hear in the triads on II, IV and VII, and in the seventh chords II^7, IV^7, V^7 and VII^7. Don't just look at your hands, but always listen closely to what they are doing.

* Moving the thumb under, has more or less the feeling of moving the other fingers over the thumb; moving the third or fourth fingers over the thumb feels like moving the thumb under the fingers.

✔ Look at the diagram opposite, which shows the scale of G major, and play it on the piano with the given fingering. Discover the minor seconds (half steps) between the third and the fourth, and between the seventh and eighth tone. Keep in mind the *f*♯!



✔ Play the triad in root position and its inversions on the degrees of the above scales.

✔ Also play root position and inversions of the seventh chords on the degrees in the key of G major.

6.7 A general rule for the fingering of the scales: the 1st and 5th finger (thumb and little finger) should avoid touching any black keys. For the **right hand** in 'flat keys', the 4th finger always is on the *b*♭ and starts – with the exception of the F scale – with the 2nd finger. In the 'sharp keys', the 4th finger is on the new sharp. The new sharp in the 'sharp keys' is always the seventh tone of the major scale. This rule for the fingering of the right hand goes for all 'flat keys' and for the 'sharp keys' up to and including the scale of B major. Remember that the scales of F♯ and G♭ are one and the same, and therefore have the same fingering. Scale fingering for the **left hand** is the same as the one for C (4 on *d* and 3 on *a*) used as long as possible. When this is no longer possible, because the scale starts on a black key, like the scales of B♭, E♭, A♭ and D♭ (for G♭ see below), the 3rd finger is on the first tone and the 4th finger on the new flat. The new flat is always the fourth tone in the 'flat key' scale. If in the left hand the thumb is going to be on a black key, as in the scales of B and G♭ (F♯), the scale starts with the 4th finger and the 4th finger comes on *g*♭ (f♯).

Assignment (long-term):

✔ Become a natural in playing the major scales, and triads and seventh chords on the degrees, in all keys.

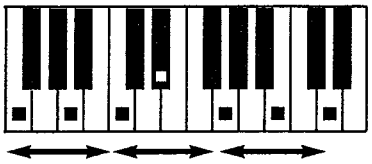
Lesson 7 The minor scales

7.1 When we compare the minor scales to the major ones, it strikes us that the major key has one scale where the minor key has three scales. The superimposed triads of a major key all are major triads. In the minor key, however, there are three possible combinations of triads:

1. Only the middle triad is a minor triad; this forms **melodic** minor.
2. The middle and bottom are both minor triads; this is **harmonic** minor.
3. All three triads are minor triads; this is called **natural** minor or **aeolic**.

Diagrams 1, 2 and 3 show the tone material of the three different C minor scales as superimposed triads.

1



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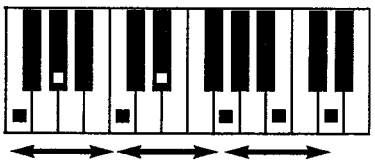

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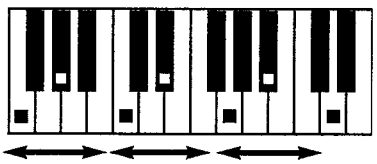
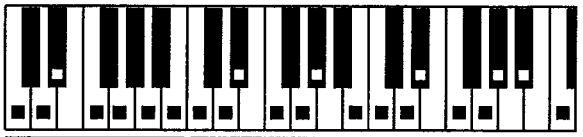


Diagram 4 shows the complete stepwise tone material of C minor. We see respectively the melodic, harmonic and aeolic scale of C minor, which is called the *parallel minor* of C major. It has the same *finalis* as the major scale.

4

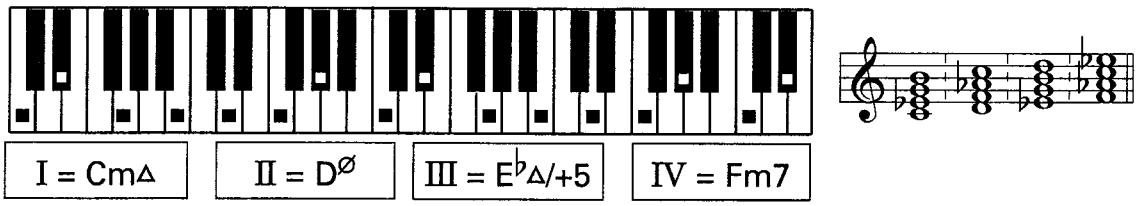


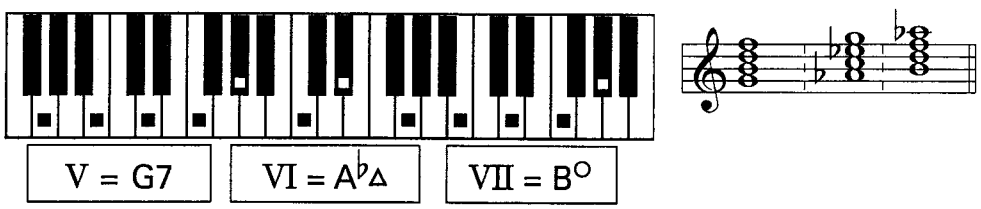
7.2 The *relative minor scale* starts on the sixth tone (VIth degree) of the major scale. The major and its relative minor key have the same key signature at the beginning of the staff. The scale in the examples is C minor; the keys of C minor and E♭ major both have three flats. The relative minor scale of E♭ major is therefore C minor. Also the reverse is true: the relative major scale of a minor scale starts on the third tone (IIIrd degree) of the aeolic minor scale. Consequently C major is the relative major scale of A minor, which has no signs at the beginning of the staff.

7.3 For lovers of practicing scales (!) it might be nice to know that the fingering for the C, G and F minor scales and their parallel major is identical.

7.4 It is customary in some languages, to write a minor key with a small letter: c minor. Since the third of the minor triad, contrary to that of the major one, is a minor third, the minor key is sometimes called 'minor-third key'.

7.5 The diagrams below show the seventh chords and their chord symbols on the degrees of the C harmonic minor scale.





Next follow the chords on the degrees of the three different C minor scales, with their names and symbols.

Harmonic minor:

I^7	CmΔ	=	C minor major seven
II^7	D$^{\varnothing}$	=	D half diminished
III^7	E$^{\flat}\Delta$/+5	=	E$^{\flat}$ major seven augmented five
IV^7	Fm7	=	F minor seven
V^7	G7	=	G seven
VI^7	A$^{\flat}\Delta$	=	A$^{\flat}$ major seven
VII^7	B^{o}	=	B diminished 7 (seven is usually omitted)

Melodic minor (differences with harmonic minor are bold-faced):

I^7	CmΔ	=	C minor major seven
II^7	**Dm7**	=	**D minor seven**
III^7	E$^{\flat}\Delta$/+5	=	E$^{\flat}$ major seven augmented five
IV^7	**F7**	=	**F seven**
V^7	G7	=	G seven
VI^7	**A$^{\varnothing}$**	=	**A half diminished**
VII^7	**B$^{\varnothing}$**	=	**B half diminished**

Aeolic or Natural minor (differences with harmonic minor are bold-faced):

I^7	**Cm7**	=	**C minor seven**
II^7	D$^{\varnothing}$	=	D half diminished
III^7	**E$^{\flat}\Delta$**	=	**E$^{\flat}$ major seven**
IV^7	Fm7	=	F minor seven
V^7	**Gm7**	=	**G minor seven**
VI^7	A$^{\flat}\Delta$	=	A$^{\flat}$ major seven
VII^7	**B$^{\flat}$7**	=	**B$^{\flat}$ seven**

In traditional harmony the figure 7 added to a roman-type degree number, e.g. II^7, indicates a four-part seventh chord. Depending on scale, mode and degree number the seventh will be a major, minor or diminished seventh. It should not be confused with the figure 7 used in letter-type chord symbols, e.g. Dm7 and G7, customary in jazz music. Here it indicates exclusively a minor seventh.

When using roman degree numbers, one often omits the 7, when the reader will understand the meaning, i.e. scale tone, triad or four-part chord.

Exercises:

- ✔ Slowly play the three scales of C minor with the correct fingering. Keep your fingers near the keys and relax the hand.
- ✔ Play the seventh chords on the degrees of the scale of C minor harmonic with comfortable fingering and call them by name.
- ✔ Play the seventh chords on the degrees of the scale of C minor melodic and natural minor (aeolic) with comfortable fingering, and call them by name.
- ✔ Invert the seventh chords on the degrees of the scale of C minor harmonic with comfortable fingering.
- ✔ Play the following chords in close position with the root in the bass (root position) and with the 7th as top note (in the lead):

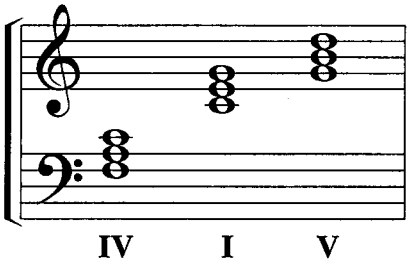
  $A^{\flat}\Delta$, $B^{\varnothing}$, $E^{\flat}\Delta$, B°, Fm7, F7, $B\Delta$, $F^{\sharp}$m7.

- ✔ Play the same chords in mixed root position with the 5th in the lead.
- ✔ Play as many major 7th chords in close position as you can find. Pay careful attention to their correct sound. Try to memorize them.
- ✔ Do the same with the dominant 7th and the minor 7th chords.

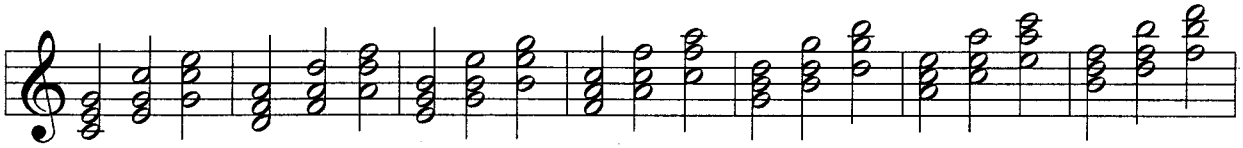
LEARN THE OVERVIEW BELOW BY HEART, AND PRACTICE IT ON THE KEYBOARD IN ALL KEYS!

Primary degrees:

I = Tonic
IV = Subdominant
V = Dominant

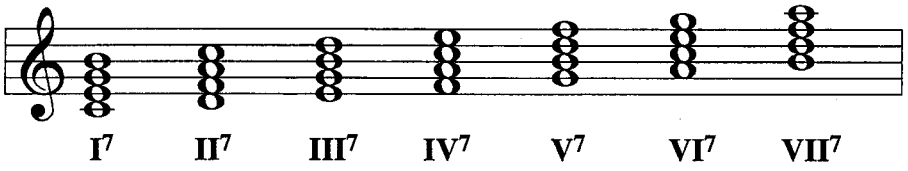


Inversions of the triads on the degrees of the C major scale

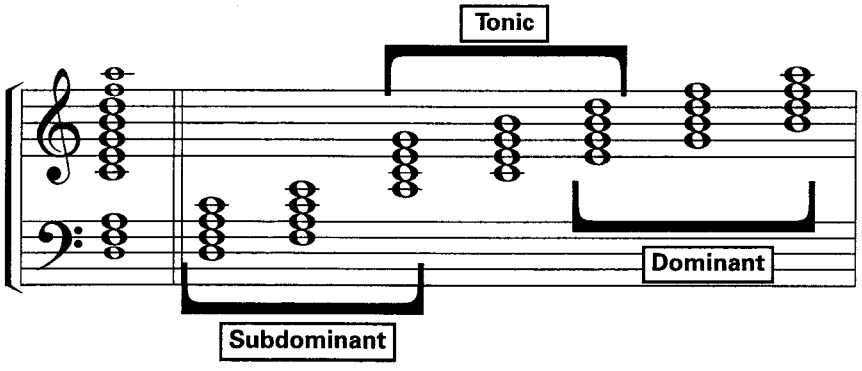


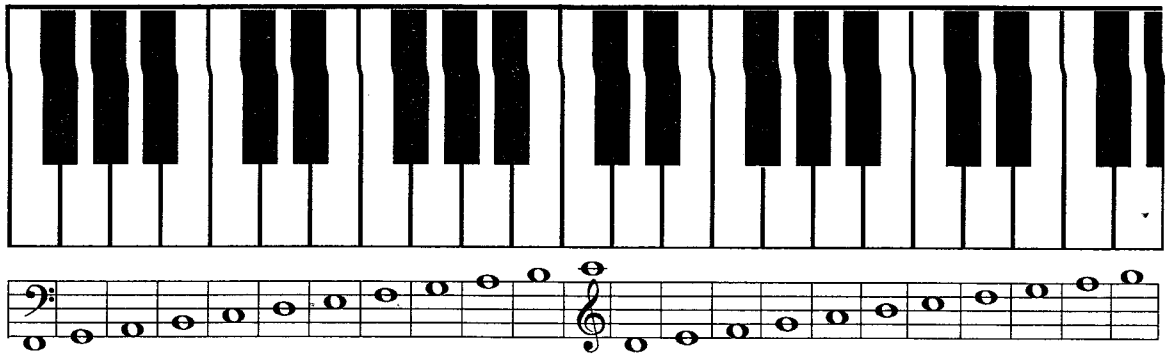
Inversions of the triads on the degrees of the C harmonic minor scale

The seventh chords on the degrees of the C major scale



The seventh chords on the degrees of the C major scale organized according to the superimposed triads





CHAPTER 2 THE FIRST CHORD PROGRESSIONS

In the previous chapter we were introduced to the piano and to some of the elements of traditional harmony. We also got to know the most common chord symbols and a number of terms from the jargon of traditional harmony. The subject of this chapter will be the progressions of the primary degrees: tonic → dominant → tonic, and tonic → subdominant → tonic. Furthermore, we will be introduced to the preparation of the dominant by the subdominant.

Lesson 8 Primary degrees in traditional harmony

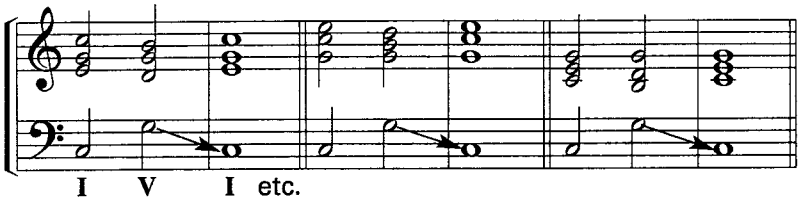
8.1 The principle function of the dominant is steering the harmony to the tonic. When the primary degree of the dominant (V) moves to the primary degree of the tonic (I), both in root position, the bass falls a fifth (Latin: *cadere*, to fall). This kind of chord progression is called an *authentic cadence* (example 1a). The chords have a *fifth relation.**

Usually the subdominant prepares the dominant or steers the harmony away from the tonic. The progression from the subdominant (IV) to the tonic, however, is all but unusual. It is called *plagal* (derived) *cadence* (example 1b). The bass leaps a fifth (falls a fourth). In a sense, the relation subdominant –tonic is the opposite of the relation dominant–tonic.

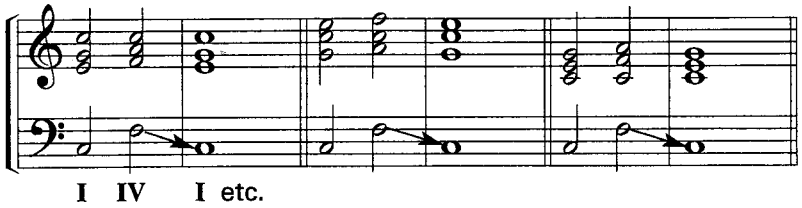
In a closure we hear the plagal cadence less frequent than the authentic cadence dominant → tonic. The dynamics of the cadential fifth (fall of the fifth) in the latter progression is considerably stronger than the raising fifth in the subdominant → tonic progression.

8.2 The examples 1a and 1b show the elementary four-part progressions of the primary degrees in C major: I → V → I, tonic → dominant → tonic (C→G→C) and I → IV → I, tonic → subdominant → tonic (C→F→C). All the triads are in root position and all triads are complete, i.e. all chord tones are present. The root of the triads (*c*, *g* and *f*) is doubled an octave up.

* In order to achieve some fluency in playing harmony on the piano, it is of course not absolutely necessary to be familiar with the complete jargon of traditional harmony, but it is a lot more comfortable when one understands the terminology and not every concept has to be explained elaborately.

1a 

Authentic cadence

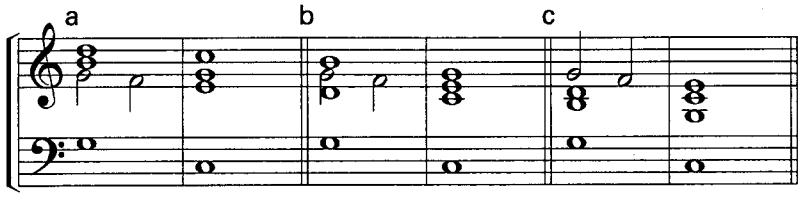
1b 

Plagal cadence

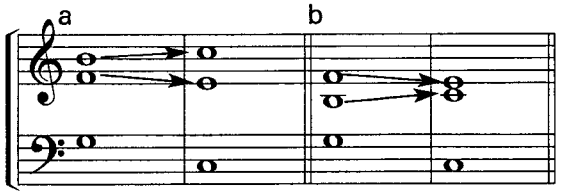
The seventh tone of the major scale has the tendency to resolve upwards to the root tone. For this reason the tone is called *leading tone*. The leading tone is the third of the dominant primary degree. In the plagal cadence the root of the subdominant functions as a *descending leading tone* to the third of the tonic: *f* ↘ *e*. See example 1b. It is mainly this quality which causes the dynamics of the plagal cadence.

In sections 14.4 and 21.6 we will learn that in the traditional plagal progression often the 6 is added (*sixte ajoutée*) to the triad of the primary degree of the subdominant (IV). Because the chords resolve differently, this chord shouldn't be confused with the first inversion (§) of II^7.

8.3 The progression in example 2 differs from the one in example 1a. In the upper staff we see a descending passing tone (*f*) between the root tone of the G triad (*g*) and the 3rd of the C triad (*e*). On the third beat of the first bar this (passing) tone changes the G triad into a dominant seventh chord on *g*. To get a complete C chord, the leading tone (*b*) drops to the fifth of C (*g*).
Examples 2a, 2b and 2c show the progression G→G7→C.

2 

8.4 In example 3 we see the most elementary resolution of the incomplete dominant seventh chord on *g* (G7), into an incomplete triad of C. In both chords the 5th is absent (*d* and *g*). In the upper staff of example 3a we see the interval of an augmented 4th (*f-b*) – also called *tritone* – of G7, resolving outward to the interval of a minor 6th (*e-c*) of C. The opposite happens in example 3b where the diminished 5th (*b-f*) resolves inward to the major 3rd (*c-e*) of the C triad.* *Augmented intervals usually resolve outward, diminished intervals resolve inward.*

3 

*Tritone and diminished fifth are complementary intervals. Superimposed they form an octave.

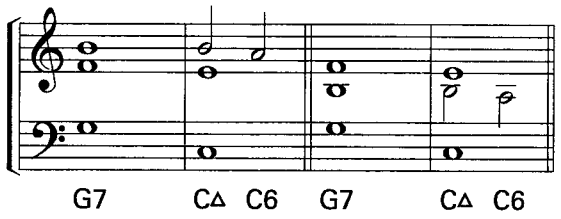
Lesson 9 Primary degrees in jazz

The sound of the chords used in the progressions of traditional harmony deviates in quite a few ways, due to differences in style and character, from the sound (colouring) of the chords in jazz In this lesson we will meet some of these differences.

Dominant → Tonic ($V^7 \rightarrow I$) in jazz

9.1 In example 1 the 6 of C6 (*a*) is suspended by the major 7th (Δ) of CΔ (*b*). The latter tone is called a *suspending tone* or in short a *suspension*. It is a tone which suspends movement by which it creates tension. The third of G7 (*b*) keeps its place and becomes the major 7th of CΔ.

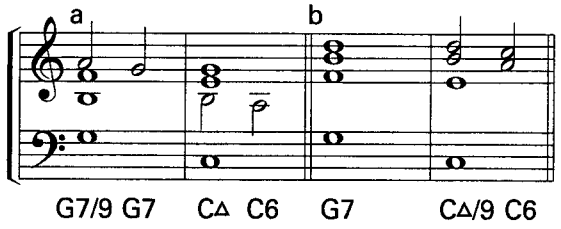
1



A number of the tones which in traditional harmony were originally suspending tones, have partially lost their dynamic character in jazz. These tones have become part of the superimposed-thirds structure of the chord. Colouring the chord is the most important reason for their existence. We call them *chord extensions* and they are indicated with a number or with a delta. The numbers are derived from the interval they create with the root of the chord. The nine (9) is the major ninth, that is, the major second plus an octave. Thirteen (13) is the major sixth plus an octave (tredecime). Eleven (11) stands for a fourth plus an octave (undecime), etc. By adding a minus (–) or flat (♭) the extension is lowered and by a plus (+) or a sharp (♯) raised. Besides the colouring character of chord extensions, the most important difference between an extension and a chord tone is that a chord tone can be in the bass, whereas chord extensions only under certain conditions are found in the bass. The major seventh (delta, Δ) is an exception to this. This tone can be both a chord tone and a (colouring) extension.

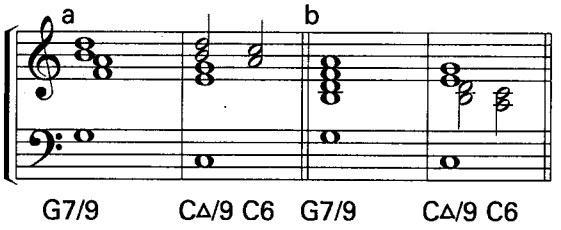
9.2 In example 2a the root tone of G7 (*g*) is suspended by the 9 (*a*). In example 2b the root tone of CΔ/9 (*c*) is also suspended by the 9 (*d*).

2



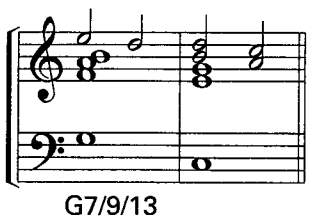
9.3 In example 3 we see the complete five-part G7/9 chord of which the 9 resolves to the 5 of CΔ/9 (*g*). The 5 of G7/9 (*d*) becomes the 9 of CΔ/9 which resolves to the root tone.

3



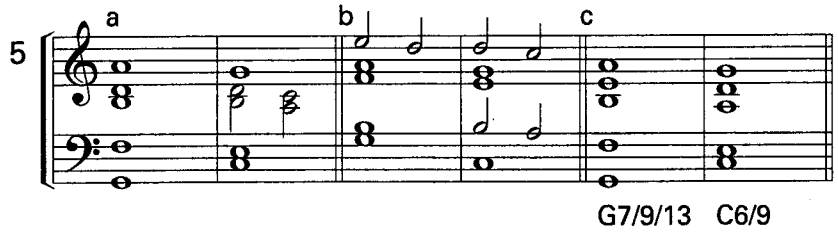
9.4

4



In example 4, the 5 of G7 (*d*) is internally (within the chord itself) suspended by *e*. This tone is the 13 of the G7/9/13 chord. The remainder of the voices move as in example 3a. The 13 can also stay in the lead of G7 and resolve externally to the 9 of CΔ/9 (*d*).

9.5 Examples 5a and 5b show the voicing in which the second voice – from the top – is positioned an octave lower. In jazz music a *mixed position* like this is called a *drop-two position* (see also section 5.3). This more open position gives the chords a different colour. Furthermore, the possibility is created to divide the space between the voices more evenly, which makes it easier to insert the colouring tones in the middle voices (example 5c). In 5a we see the same progression as in 3b, with the difference that in 5a the 7 (*f*) and root of G7, and the 3 of C△ (*e*) are one octave lower.

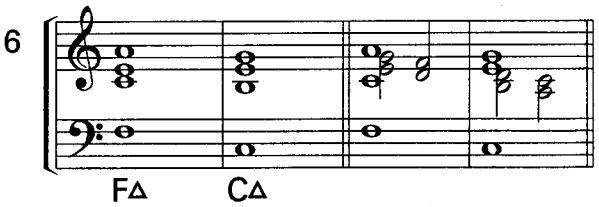


9.6 Example 5c shows the external resolution of the 9 (*a*) and 13 (*e*) of G7 into respectively the 5 (*g*) and the 9 (*d*) of C6/9. Because of the drop-two position the colouring tones 13 (*e*), 9 (*d*), and 6 (*a*) can be more evenly placed in-between the middle voices (compare example 5a).

Subdominant → Tonic (IV→I) in jazz

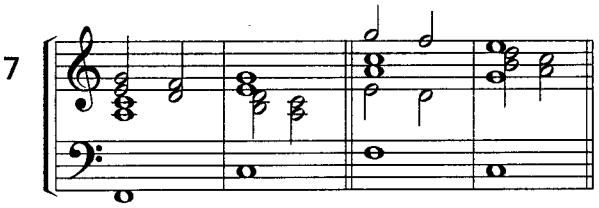
9.7 In jazz a subdominant primary degree can resolve to a root-positioned tonic as well as to a tonic with the third in the bass (I^6). We will see, however, that in jazz IV→III or IV→I^6 is more common than IV→I.

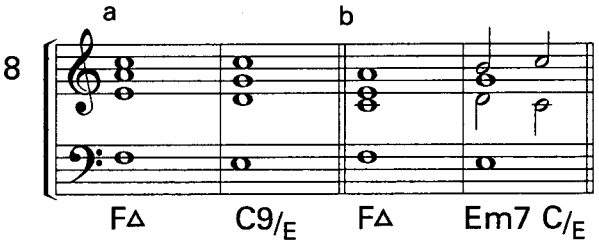
9.8 In the examples 6 and 7 the chords in the plagal progression are in root position. Again, we see the major 7 (△) suspending the 6, and the 9 suspending the octave doubling of the root.



9.9 In example 8 the root of the subdominant moves to the third (*e*) of the tonic. Traditionally, if this latter tone is in the bass, it is not doubled in the upper part of the chord.

The two suspensions (*b* and *d*) for the doubled root of the tonic in example 8b create the 7th chord on III (Em7), followed by I^6 ($C/_E$).

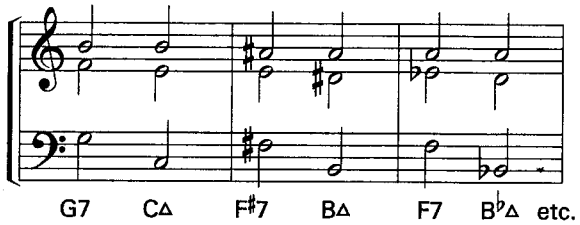




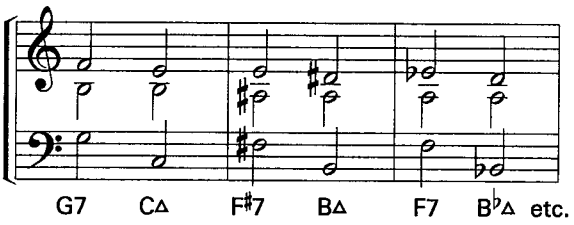
Exercises:

- ✔ Play all the examples from lessons 8 and 9.
- ✔ Play sequences 1a and 1b, and continue over one octave.
- ✔ Play sequences 1a and 1b, beginning on C7 and continuing to C7 one octave down.
- ✔ Play sequences 2a and 2b, up to and including $G^{\flat}\Delta$ $G^{\flat}6$.
- ✔ Play the sequences 2a and 2b, starting at a random three-part major 7th chord with the fifth omitted.
- ✔ While playing the sequences, name the chords and try to recall their piano voicing.

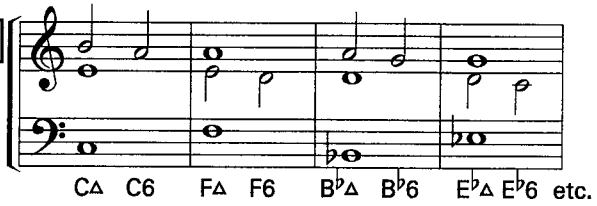
Seq. 1a



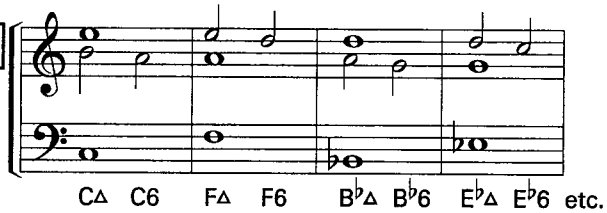
Seq. 1b



Seq. 2a

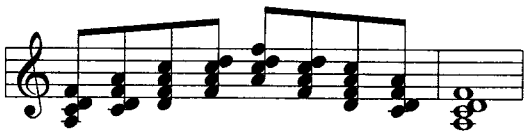


Seq. 2b



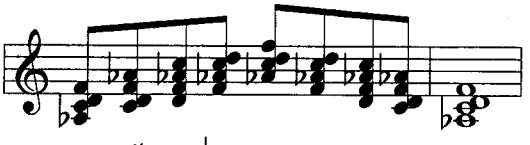
- ✔ Play exercises 1 and 2 while the left hand plays the root of the chords indicated. Only the upper structure of the chord moves. The bass keeps its place.
- ✔ Transpose the exercises a half step up: F$^{\sharp}$6 or D$^{\sharp}$m7; G6 or Em7, etc. F$^{\sharp}$m6 or D$^{\sharp\varnothing}$ or B7/9, etc. Try to get some fluency, which is not the same as speed! Take your time!
- ✔ The exercises can be varied in different ways: F6 going up, F$^{\sharp}$6 down, G6 up, etc. Start on a different chord. Use a different rhythm. Transpose by thirds: F6, A$^{\flat}$6, B6 (C$^{\flat}$6), etc. Use your imagination and don't make it too easy for yourself.

Exc.1



F6 or Dm7

Exc.2



Fm6 or D$^{\varnothing}$ or B$^{\flat}$7/9 with root omitted

Lesson 10 A few rules for voice leading

The technique of voice leading has its origin in the practice of traditional vocal four-part harmony. The rules of voice leading serve to give a melodical sense to the separate voices of the chords. This lesson is about some of these rules. In the following lessons they will be extended and provided with additions and exceptions.

10.1 ***The seventh of a chord descends stepwise.***

This rule is valid for the resolution of the seventh within the same chord or the following chord. We call this the *internal* and the *external* resolution:

△ ↘ 6 *internal resolution*

10.2 ***The seventh descends to the third of the following chord, if the two chords have a fifths relation.***

We have seen this consistently where G7 is followed by C. The *f* moves to *e* (NB!):

7 ↘ 3 *external resolution*

10.3 ***The third becomes the seventh of the following chord, if the two chords have a fifths relation:***

3 → 7 or 3 ↘ 7 *external resolution*

When there is a progression of G7 to C△, the third of G7 stays in place and becomes the △ (major seven) of C (NB!)

In a progression of two or more dominant seventh chords with a fifth relation, i.e. G7 → C7 → F7 (*dominant chain*) the 3 moves to the 7: *b* ↘ $b^{\flat}$ ↘ *a*.

10.4 ***Chord extensions descend stepwise:***

9 **↘** ***1*** *internal resolution*
13 **↘** ***5*** *internal resolution*

and in a progression where the chords have a fifths relation as in G7 → C:

9 **↘** ***5*** *external resolution*
13 **↘** ***9*** *external resolution*

10.5 ***Suspensions resolve descending stepwise, internally as well as externally.***

10.6 ***In a chord progression the voices should preferably move over the shortest distance.***

Application of this rule depends on a number of factors: the lead (melody), the tone in the bass, the doubling of tones, and whether or not there are tones omitted from the chord; i.e. whether or not the chord is complete. 'Shortest distance', therefore, will need some specification (see also 8.3).

Exercises:

✔ Play the following progressions with the correct voice leading:

✘ C7/9 | F△/9 F6 | ✘ D7/9 | G△/9 G6 |
✘ C7/13 | F△/9 F6 | ✘ D7/13 | G△/9 G6 |

✔ Connect the following chords in drop-two position:

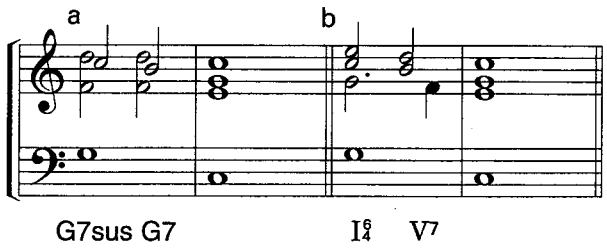
✘ C7/9/13 C7/9 | F△/9 F6 | ✘ D7/9/13 D7/9 | G△/9 G6 |

Lesson 11 Sus4 → Dominant seventh chord → Tonic

In the previous lessons we were introduced to the suspensions: △ for the 6 and 9 for the root of the major chord, the 9 for the root and 13 for the fifth of the dominant seventh chord. We learned that the suspensions can be a part of the superimposed thirds structure of the chord, in which case they are called chord extensions. In this lesson we will become acquainted with the suspension of the third of the dominant seventh chord of V. This suspending tone takes the place of the third, which is usually not present in the chord, and is usually not a part of the superimposed thirds structure. In the chord symbol this kind of suspension is abbreviated as *sus* or *sus4*. The fourth *c* of G7sus4 suspends the third *b* of G7.

11.1 In example 1a the fourth (*c*) suspends the third (*b*) of the G7 chord: G7sus4.

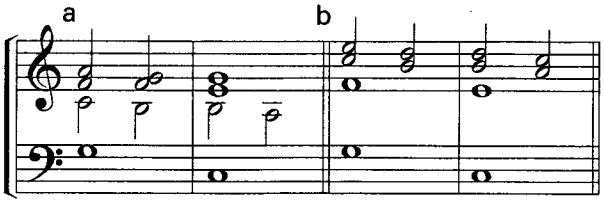
1



11.2 In example 1b, in addition to the suspension of the third (*b*) of the G triad, the 6 or 13 (*e*) suspends the fifth (*d*). This creates, by coincidence, the second inversion of the C triad with the doubled bass tone *g*. In traditional harmony, a tonic triad (C) applied in this way, is called a *suspending six-four* (⁶₄) *chord* (triad with the fifth in the bass). It can be regarded as a suspended V chord.

11.3 In the upper staff of example 2a, on the first beat of the first bar, we see the F triad. This suggests the presence of the subdominant (IV) as a preparation for the dominant. Instead of G7/9 (see 9.2) we see G7/9sus4 – also written as F/G – as a suspension for G7.

2



11.4 Example 2b shows the same suspensions as example 1b. Because the seventh of G7 (*f*) replaces the doubled *g* shown example 1b, no C triad is created. In this example, the lead (*e*) could sustain as 13 in G7/13 for the whole bar, to re-

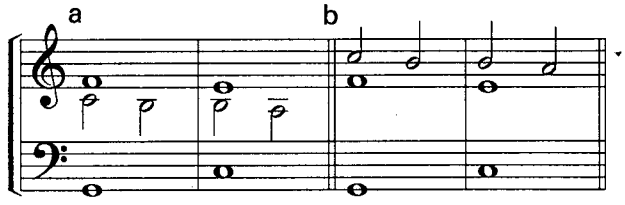
solve into the ninth of C△/9 (*d*) in the next bar. A similar thing could happen with the lead in example 2a: the *a* continues as 9, to resolve externally into the fifth of C△ (*g*).

11.5 In example 3 we find the most essential voices of the progression

G7sus G7 IC△ C6 I

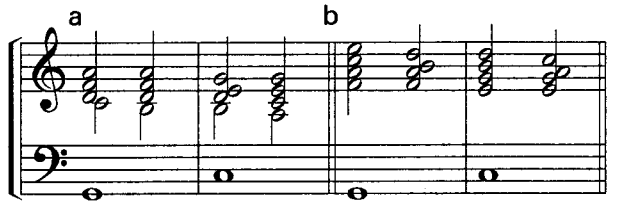
It is recommended to learn examples 3a and 3b by heart and practice them in all keys.

3



11.6 Examples 4 and 5 show the complete five-part harmony of the progression. Example 4 in closed and example 5 in drop-two position.

4



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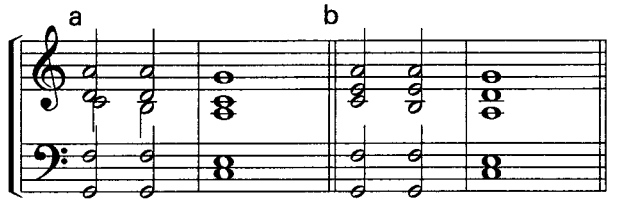
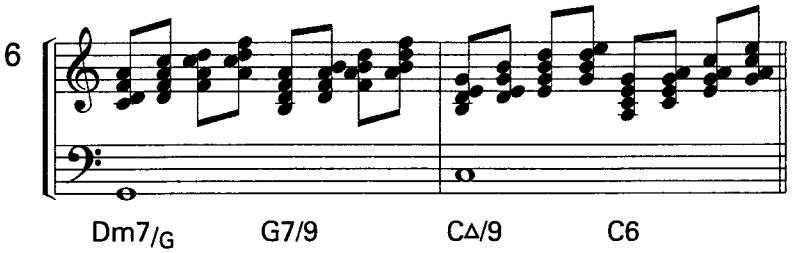


11.7 In example 5b we meet the 13 (*e*) as colouring tone again, replacing the fifth in the middle voices of G7/13 (see example 5a). The C chord has been coloured by the 6 (*a*) and 9 (*d*).

11.8 The *upper structure* of the chords in example 4a, played by the right hand (upper staff), can be inverted, in the same way as in exercises 1 and 2 of lesson 9. This way successively brings the chord tones of the upper structure in the lead over the same bass (see example 6). We can try this with the drop-two position in example 5a as well. That, however, will be considerably more difficult. The challenge is not to double tones. Listen – and look – carefully! In this position it is tricky (at times impossible), to keep the sustained bass in its place, without using the right pedal.

6



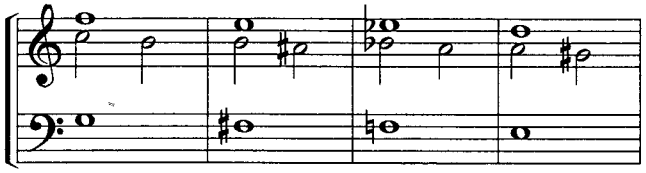
Exercises:

✔ Play the examples and follow the advice given in 11.5 and 11.8.

✔ Learn by heart as many examples as possible and transpose them to nearby keys (F, G, B♭, etc.).

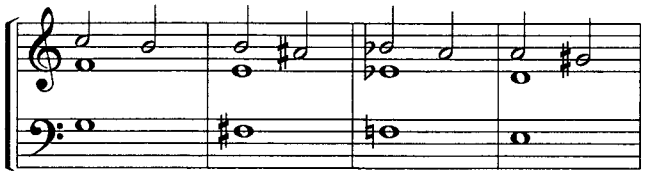
✔ Play the sequences 3a and 3b over one octave, and learn them by heart. Say the names of the chords while playing them.

Seq.3a



G7sus G7, etc.

Seq.3b



G7sus G7, etc

✔ Learn to play the sequences, starting somewhere halfway.

Lesson 12 Dominant → Tonic, with some chromatics

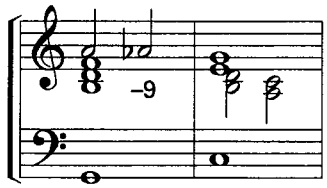
In this lesson we will encounter some chromatic *passing tones*, both in the lead and in the middle voices.

12.1 In example 1, a chromatic passing tone is inserted between the ninth of G7/9 and the fifth of the C chord. The $a^{\flat}$ in the lead makes the G7/9 into a G7/–9 chord ('G7 flat nine').

12.2 In example 2, sus4 (*c*) resolves externally into a chord tone of the next chord. We see the suspension *c* move to the major 7 (*b*) of C△. The $a^{\flat}$ (–9) is a chromatically moving passing tone again. In this example the fifth (*d*) is omitted from the G7 chord. This makes the chord incomplete.*

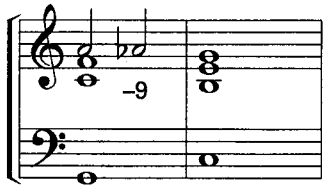
12.3 In example 3, we also see the passing tone $a^{\flat}$ between 9 (*a*) and 5 (*g*). The 13 substitutes for the 5 as a colouring tone that resolves to the 9 of the next chord (*d*). In all examples we see the 9 or –9 of G7 (*a* or $a^{\flat}$) resolve into the 5 (*g*) of the C chord.

1



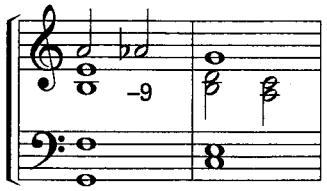
G7/9 C△/9 C6

2



G7/9sus4 C△

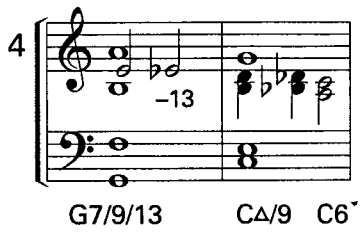
3



G7/9/13 C△/9 C6

* In a dominant seventh chord the fifth can easily be omitted. In some cases, e.g. where the 13, –13 or +5 are also in the chord, it sounds better when the fifth is left out.

12.4 In example 4, the 13 of G7 (*e*) moves to the 9 (*d*) of the C△/9 chord via –13. In the tonic chord the middle voices also move with chromatic passing tones. In this example we see the two of them move together.



Exercises:

✔ Play all the examples and name the chord tones by their number (1, 3, 6, 7, △, 9, 13) and their flats (flat 9 and flat 13).

✔ Practice the following progressions until you can play them smoothly:

✘ C7/9/13 C7/–9/13 | F6/9 starting with 9 in the lead

✘ F7/9/13 F7/–9/–13 | B♭△/9 B♭7/–9 | B♭6 starting with 13 in the lead

✔ Invert the following chords in close position with the right hand, keeping the bass, written after the slash, in the same place:

✘ Fm7/B♭ ✘ D^{ø}/G ✘ B^{o}/G ✘ D^{ø}/B♭ ✘ A^{ø}/F ✘ E♭m7/A♭

Lesson 13 Subdominant → Dominant and the II-V-I progression

The previous lessons showed the dominant as a preparation for the tonic: G7 resolving to C. In this lesson we will see the subdominant function as a preparation for the dominant. Some hints about this characteristic of the subdominant have already been given. In 11.3, 11.6 and 12.2 we see triads of F or F6 and F△ chords in the upper staff of the examples, while the third of the G7 chord is omitted. The only thing that distinguishes the suspending G7/9sus4 in the examples from the subdominant, is the absence of a subdominant bass (*d* or *f*). Example 2 in 12.2 is a little different; if there had been an *f* in the bass, the subdominant wouldn't have been a dominant preparation, but we would have seen the plagal cadence: subdominant → tonic (see lesson 8.2).

13.1 If there is a half step (minor second) distance between the seventh and the eighth tone of the scale, the seventh tone is called the leading tone (see lesson 8.2). In the scale of C, *b* is the leading tone which is also the third of G7. It is said that this tone has a strong tendency to resolve upward to the tonic. In contrast to the dominant, which takes a great part of its right of existence from this tendency, a subdominant chord rarely has a ascending leading tone. In the key of C we therefore very seldom find an ascending *b* in a subdominant chord. If there happens to be a *b* in it, for example as +11 in F, we usually want it to resolve downward to *a* or leave it in its place.

13.2 Besides the primary degree IV, II has a subdominant function as well. In the introduction to the seventh chords (5.1) we discovered that the F triad with *d*

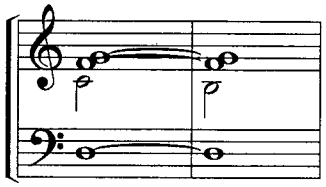
at the bottom (in the bass) produces Dm7. It is also known that F6 consists of the same tones as Dm7.

Dm7 is II in C major and has subdominant function in that key.

13.3 In the II-V progression in C (that is, the progression Dm7→G7) one notices the following: the seventh of Dm7 (*c*) resolves to the third of G7 (*b*) and the bass drops a fifth, as it does in the progression of G7 to C. Dm7 and G7 also have this fifths relation (see 8.1). Root-positioned chords with a fifths relation make a *strong (cadential) progression.*

13.4 Because of the similarity of Dm7→G7 with the suspension G7sus→G7, the Dm7 chord is called a *suspending minor seventh chord.* The seventh of Dm7 is suspending the third of G7. In example 1 it becomes clear that Dm7/11 (11=*g*) is identical to $G7sus4_{/D}$ (*d* in the bass). See below example 6. In this example G7 is not in root position

1

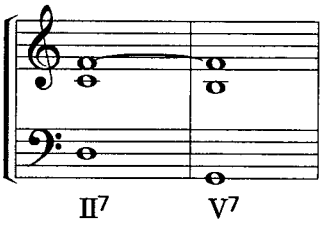


13.5 The II-V progression in minor keys functions in the same way as the one in major. In minor, however, the second degree is, as a rule, a half diminished seventh chord with a *diminished* instead of a *perfect fifth*; in minor Dm7→G7 usually becomes $D^{\varnothing}$→G7. See also chapter 4.

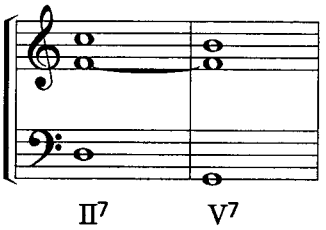
13.6 In examples 2a and 2b we see the movement of the most essential tones of the II^7-V^7 progression in C major or C minor. In example 2a the third of II, and in example 2b the seventh is in the lead. Neither II^7 nor V^7 in the examples has a perfect fifth. This tone is considered as non-essential. It can give the chord a richer sound, but usually it is a voice with no great harmonical meaning, and can therefore easily be omitted.

Thirds and sevenths are tones that belong to the middle voices rather than to the lead voice. *If the third or the seventh has a melodic role, we usually find it doubled in the middle voices.*

2a



2b



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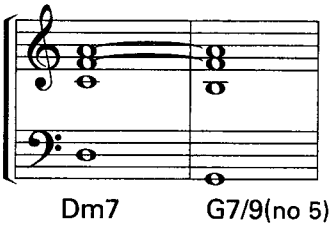

13.7 In examples 3 and 4 the complete four-part Dm7 chord is shown. Example 3 shows that retaining the same number of voices in the resolution to the dominant results in an incomplete G7/9 chord; the fifth is absent. After all, a complete ninth chord is a five-part chord. In example 4 the fifth of Dm7 (*a*) keeps its place but is taken over by the player's right hand as

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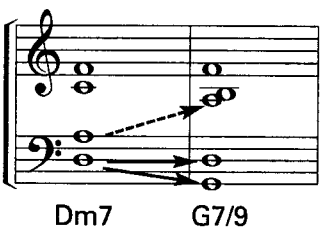
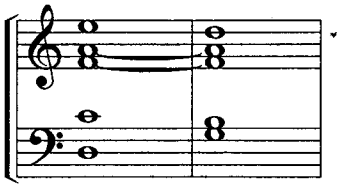


ninth in the G7 chord (arrow). In the left hand the root (*d*) of Dm7 splits up and completes the G7/9 chord.

This splitting up of tones is quite a normal procedure on the piano, deviating from the traditional voice-leading rules.

13.8 In example 5, Dm7 is extended by a fifth voice: the ninth (*e*). In the next chord this tone resolves to the fifth (*d*). In this example we see the complete G7/9 chord. Just like in the previous examples the fifth of Dm7 (*a*) keeps its place, and becomes the ninth in G7/9.

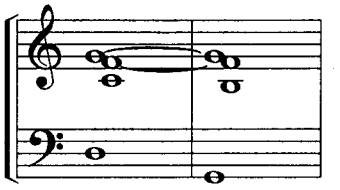
5



Dm7/9 G7/9

13.9 In example 6, Dm7 is extended with *g*. A Dm7/11 chord is being formed. This extension of II appears in many forms. In this case the extension is more an anticipation of the root tone of the chord to which it resolves than a suspension. Like the 9 and the 13, the 11 also is considered a part of the superimposed thirds structure of a chord. The *d* can also remain in the bass of G7. In that case the only movement in the II-V progression is 7↘3 (*c*↘*b*). See also example 1.

6



Dm7/11 G7

13.10 The voice-leading rules become somewhat redundant as the chords, played on the keyboard, become more extensive. In the first place, following them correctly becomes almost impossible, due to fingering problems. Also the increased number of voices diminishes the necessity of applying the rules. Examples 7 and 8 show that we will barely hear the correct voice leading; following ineffective rules seems to be rather fruitless.

The arrow in example 7 stands for the exchange of the thumbs in this progression. For people with hands that are big enough to play the third of Dm7/9/11 (*f*) with the left hand, this thumb exchange is superfluous. If they want, they could add the fifth (*a*) to the Dm7/9/11 chord with their right hand thumb or with the 2nd finger of the left hand, down an octave.

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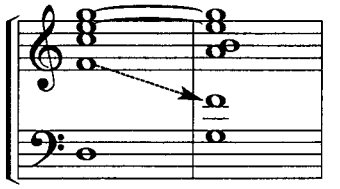

Dm7/9/11 G7/9/13

G7 in example 8 belongs to the so called *altered chords*, *d* becomes $d^{\flat}$, which we will get to know later.

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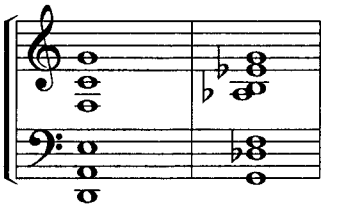


Dm7/9/11 G7/-5/-9/-13

13.11 The II^7-V^7 progression usually has the following voice leading:

7↘3 5→9 11→1

3→7 9↘5 of 9→13

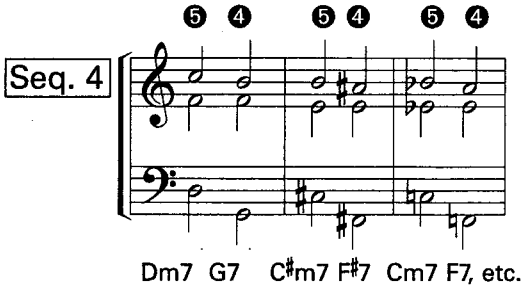
* "↘" means: "descends to...". "→" means: "becomes...".

13.12 The scale tones that can be used as extension of the suspending minor 7th chord, are 9, 11, and in some cases 13. The 4 can be added and is mainly heard in the lower register of the chord (over the bass). The voicing of the chords in the examples is one choice out of many possibilities.

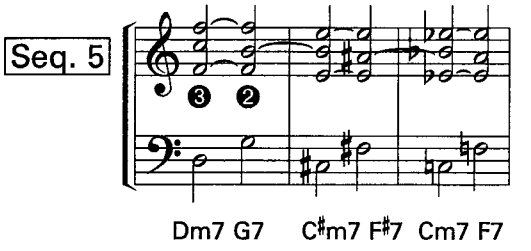
Exercises:

✔ Play the examples above and analyse the chords.

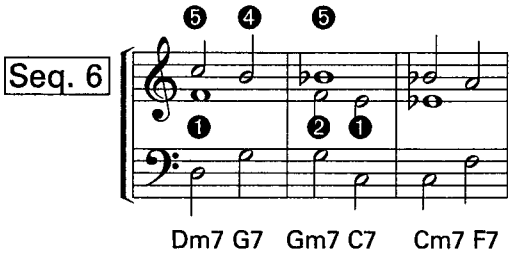
✔ Practice the three-part chord sequences (Seq. 4, 5 and 6) until you can play them smoothly by heart. Analyse them and continue playing them over the entire keyboard. Watch closely to the tones which keep their position. Play them slowly but in time. If necessary use a metronome and put several beats to every chord. Smoothness is more important than speed. The fingering of the upper voice, seventh ↘ third, in sequence 4 is ❺ ↘ ❹, all the time. The middle voice can best be played by the thumb.



✔ In sequence 5, the 1st and the 5th finger of the right hand play a doubling of the third → seventh in octaves. The fingering of the middle voices seventh ↘ third in the right hand is ❸ ↘ ❷.

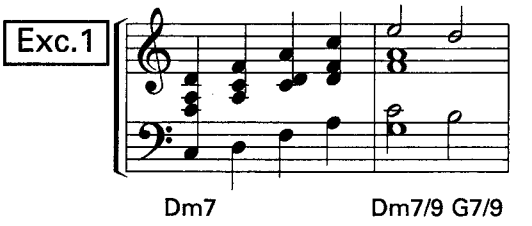


✔ In sequence 6 the right hand plays seventh ↘ major third ↘ minor third in the upper voice with ❺ ↘ ❹ ↘ ❺. In the middle, voice the fingering is: ❶ → ❷ ↘ ❶.



✔ Start the sequences somewhere half way. For example on Gm7 or B♭m7.

✔ Transpose the drop-two position of exercise 1 chromatically upward in all keys (not easy!):
E♭m7 I E♭m7/9 A♭7/9 |
Em7 | Em7/9 A7/9 |
Fm7..., etc. Learn them by heart.
Playing the chords in close position to start with, may help.



Lesson 14 Subdominant → dominant → tonic and the II^7-V^7-I progression

Although the II-V-I progression is a simple and much applied harmonical pattern in jazz music, it will become clear that it has its restrictions when harmonizing a melody. Very often a stepwise movement in the bass sounds better than the quite poor fifth- or fourth pattern that the II-V-I progression has to offer us in the bass. A long series of root positions of chords with fifths relations does not result in a very interesting, lively bass melody.

Because we have already seen the voice leading of V^7-I and II^7-V^7, there is not very much to add to the voice leading of the complete II-V-I progression, except for some supplements and exceptions. In this lesson we will discover that chords do not always have to be in root position and also that the root can be kept silent. We will meet the neighbouring tones and again the passing tones and will get to know two other extensions of dominant seventh chords.

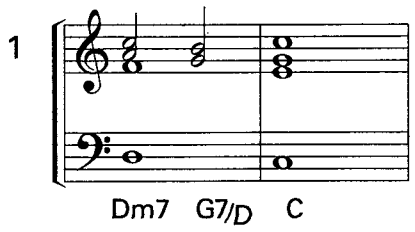
14.1 In the II-V-I progression of example 1, all voices move over the shortest possible distance. G7 is not in root position; the root (*g*) is in the second voice and the fifth (*d*) is in the bass. All chords under this *melodic final cadence* (*c*↘*b*↗*c*) are complete.

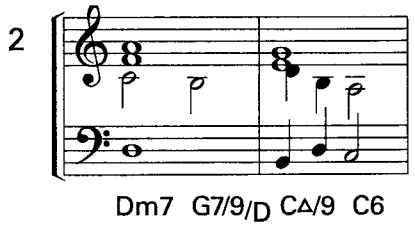
14.2 Also in example 2, the root of Dm7 remains below the G7 chord, and the root of G7 doesn't appear in G7 at all. In cases like this we say that the *root is silent*. In the second bar we see two *neighbouring tones* (*b* and *d*) moving around the root *c* in the bass.

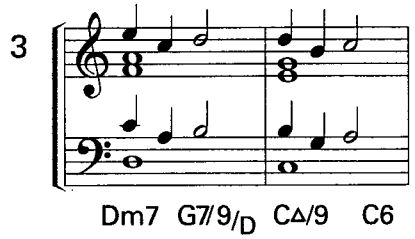
14.3 The neighbouring tones in example 3 move in tenths (third + octave), because of the drop-two position. In this example too, the root of G7/9/D is silent. In practice it will become clear that this is no rarity in harmony at the piano. See also lesson 17.

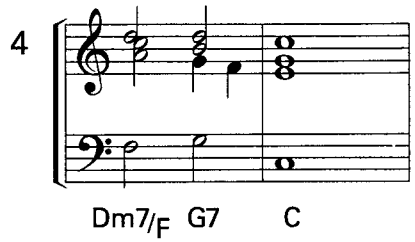
14.4 Example 4 shows on the first beat the first inversion of Dm7; *f* is in the bass. We also could have called this chord F6. Yet we prefer the symbol Dm7/F of which the dissonant, the 7(*c*), is the moving tone. In example 4a the 6 (*d*) is the moving dissonant (see also 21.6). In jazz this chord frequently resolves to Em7 or E7.

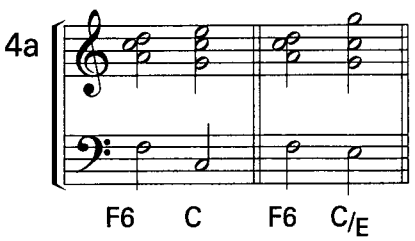
14.5 In example 5 we see a number of chromatic-





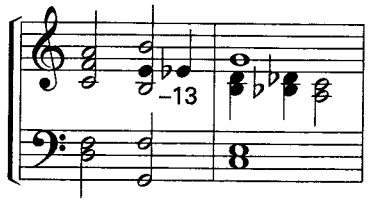






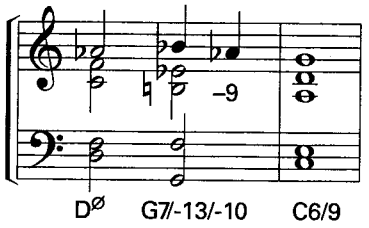
ally descending passing tones. In G7 the third is doubled an octave up. The lower one is the *harmonic* and the upper one the *melodic third.* The upper one has a more free voice leading and will often move in many directions.

5



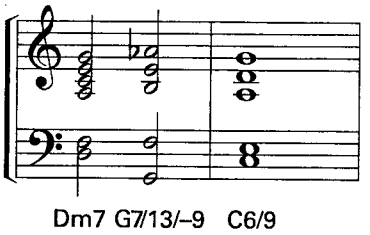
14.6 Example 6 shows a progression that originates from C minor. Therefore the final chord could have been Cm6/9. In G7 the lower third (*b*) originates from C harmonic minor and the upper one ($b^\flat$) from C aeolic minor. This $b^\flat$ is called –10 (some prefer to call it +9*). We see two successive suspensions, –10↘–9 ($b^\flat$ and $a^\flat$), for the fifth of C6/9 (*g*). G7/–13/–10 is also called – although not entirely correct – G7alt; alt being the abbreviation for *altered.* See also lesson 14.11.

6



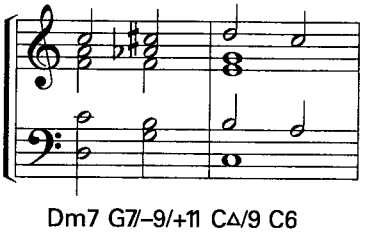
14.7 The Dm7(ø) chords of examples 5 and 6 have a melodic third besides the harmonic one; the *f* appears twice in the chords. Octave doubling of the 3 provides freedom for the upper 3 to move. Instead of keeping its place as the seventh of G7, it moves towards 13 (*e* in example 5) or –13 ($e^\flat$ in example 6) of G7. Example 7 shows the –9 in combination with the 13.

7



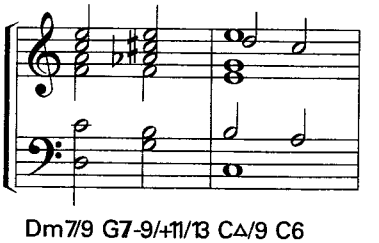
14.8 The seventh of a chord can also have – just like the third – a melodic function and move more freely with respect to the voice-leading rules. Dm7 in example 8 has a doubled *c*. The *harmonic seventh* behaves as you would expect from a seventh within the voice-leading rules; it moves down to the third of the next chord: *c* ↘ *b*. The *melodic seventh* however, moves up to $c^\sharp$. This $c^\sharp$ is also part of the superimposed thirds structure of G7 – like 9 and 13 – and gets the number +11 (*augmented eleven*). It is a non-scale tone in the key of C.

8



14.9 Playing the right voice leading for the progression CΔ/9→C6 in example 9 is not very easy for a non-piano player. It is one of those cases in which, because of fingering problems, one should perhaps deviate from the correct voice leading and simply play an Em triad with the right hand, instead of making the difficult movement *d*↘*c* with the fourth and third finger.

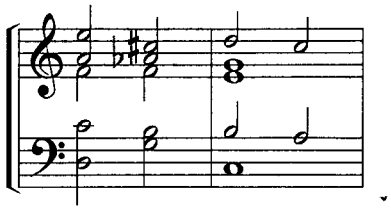
9



*Since $a^\sharp$ (+9) is a not very common tone in C minor, in this book we rather use the symbol –10 ($b^\flat$) instead of +9.

14.10 Dm7/9 in example 10 has no doubled seventh. In this progression the ninth (*e*) moves to the +11 ($c^{\sharp}$). Here we see the ninth in the lead of C△/9 (*d*) surrounded by its neighbouring tones: *e* of Dm7/9 and $c^{\sharp}$ of G7/-9/+11.

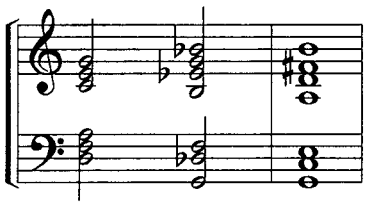
10



Dm7/9 G7/–9/+11 C△/9 C6

14.11 In example 11 we find a genuine alteration of G7: the 5 (*d*) has been lowered to $d^{\flat}$ (see also lesson 13, example 8). The $e^{\flat}$ and $b^{\flat}$ can be considered as being borrowed from C minor, but $d^{\flat}$ is a real non-scale tone in C. Often we find this tone in the bass forming a chord we will call *tritone-related dominant seventh chord* (we will come to this subject in the following lessons). The final C chord in this example is not in root position. Because of its low register, you will hardly notice this.

11

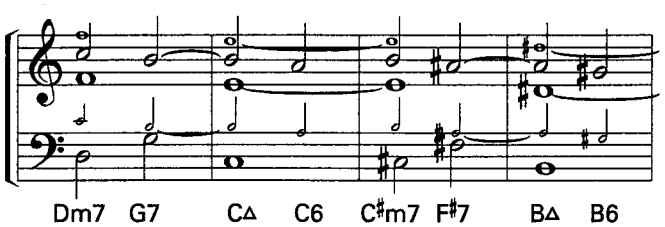


Dm7/9/11 G7/-10/-13/-5 C6/9/+11/G

Exercises:

- ✔ Read the text with the examples carefully.
- ✔ Compare the notes with the chord symbols as shown in the examples.
- ✔ Play all examples a couple of times and listen carefully to how they sound. Analyse the voice leading and the structure of the chords. Try to play as many examples as possible by heart, but don't be frustrated if you don't succeed right away. Take your time.
- ✔ Transpose examples 3, 5, 6 and 7 to F, $B^{\flat}$ and $E^{\flat}$.
- ✔ Play the II-V-I progression in sequence 7 over the entire range of the keyboard. In this sequence you will find only the essential tones; the fifth of the chords is omitted. The ties shown are used to emphasise that we are dealing with the same note, you don't really have to sustain the two tied notes. The small notes (doubled) can be added after you have mastered the larger ones. One should practice these kinds of sequences as a daily exercise, while slowly increasing the tempo. A metronome is a useful aid, don't underestimate it! After some practice, add the fifth to the chords.

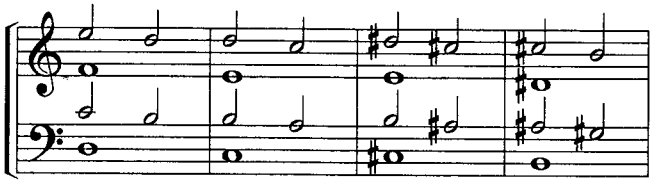
Seq.7



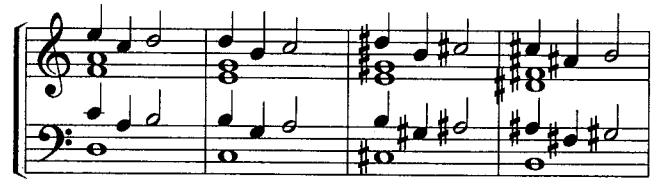
Dm7 G7 C△ C6 C♯m7 F♯7 B△ B6

✔ Practice the sequences 8 and 9 in the same way. In sequence 8 the fifths are omitted in the m7 and Δ/9 chords. In the bass of the dominant seventh chords in sequences 8 and 9 the root is absent.* After some practice, add the fifths and roots to the chords in which they have been omitted. The added 5 in Dm7/9 becomes 9 in G7/9.

Seq.8

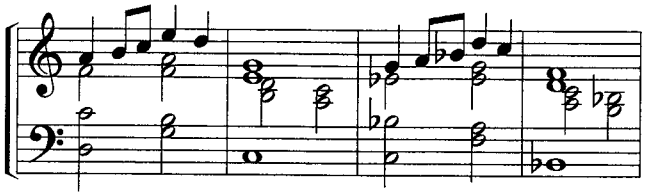


Seq.9

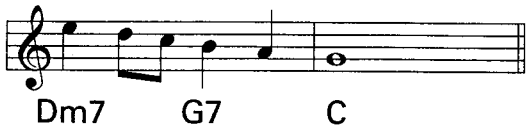


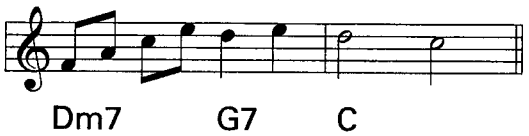
✔ Play sequence 10, not only descending in whole steps as given, but also descending in half steps.

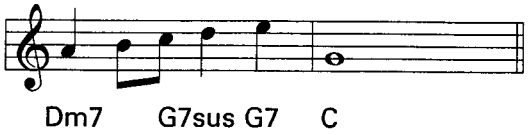
Seq.10

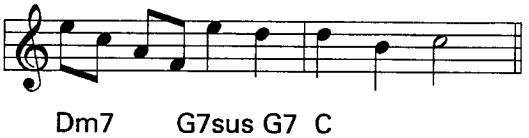


✔ The exercises below show melody fragments on II-V-I progressions which we may encounter in practice. Play these fragments on the piano, together with the given chords. Split-up the chords between two hands as much as possible. Where relevant colour the chords with appropriate extensions and additions. The melody fragments can be turned into sequences, descending in half- or whole steps.

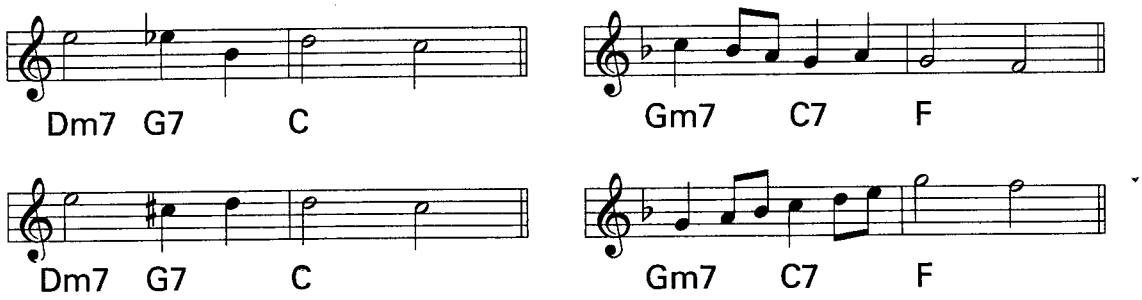






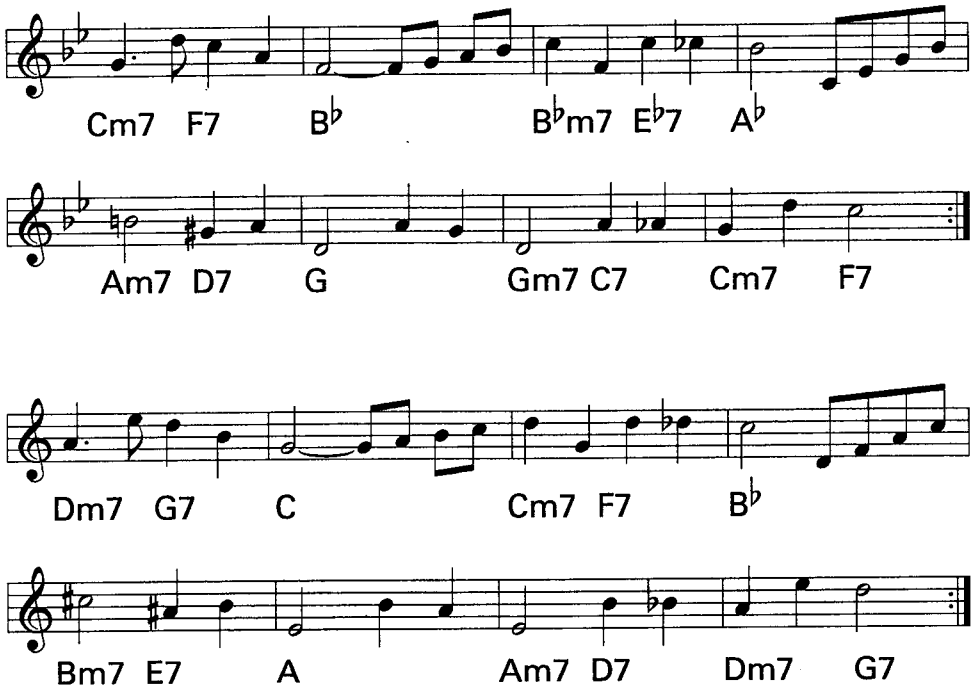


* In the next chapter you will learn, that the omission of the root of a dominant seventh chord on V forms a VII^{7} .

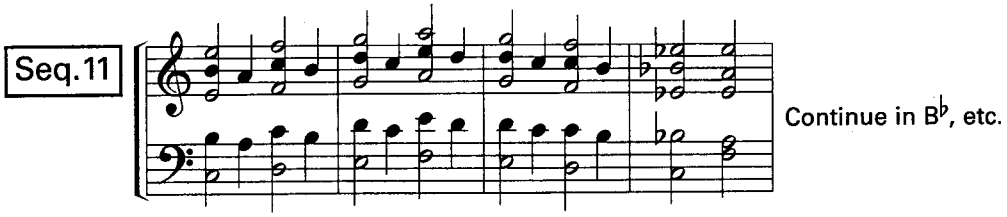


✔ Slowly practice the melody and chords of the fragments below, which is given in two keys. Make up the appropriate chord extensions by yourself.

The pick-ups written in eighth notes can be played unharmonized.



✔ Play the progression below and turn it into a sequence, descending in whole steps. 7↘6 (*b*↘*a*) can also be positioned in the lead.



✔ Play the same progression, this time starting the sequence in G. Eventually, this chord progression should be at your fingertips in all keys.

✔ Given the harmonic material learned in the preceding lessons, you should be able to grasp the accompaniment of quite a number of standard songs often played, the greater part of which are made up of simple II-V-I progressions. Most likely, in the beginning the result will still sound rather primitive, and playing the melody along with the chords will at some places be inadequate. However, one can always have a try. Who knows what you will discover along the way. Besides, you can always sing at places where playing the melody is awkward.

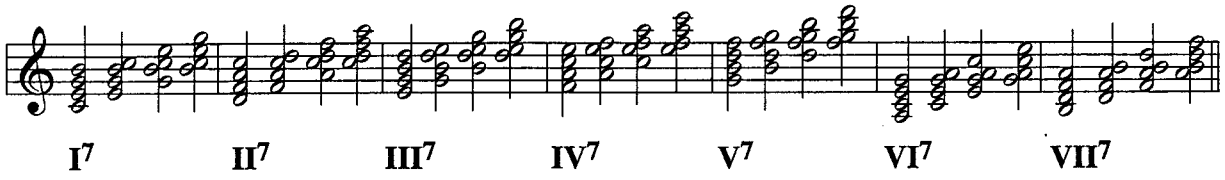
The following songs are suggested:

AUTUMN LEAVES
HOW HIGH THE MOON
PERDIDO
LADYBIRD
SATIN DOLL
JUST FRIENDS
TANGERINE
THERE WILL NEVER BE ANOTHER YOU

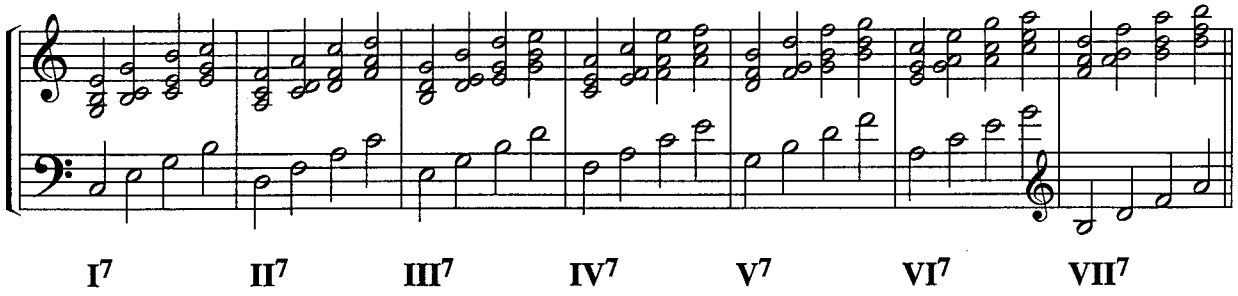
and probably quite a few more!

LEARN THE OVERVIEW BELOW BY HEART, AND PRACTICE IT ON THE KEYBOARD IN ALL KEYS!

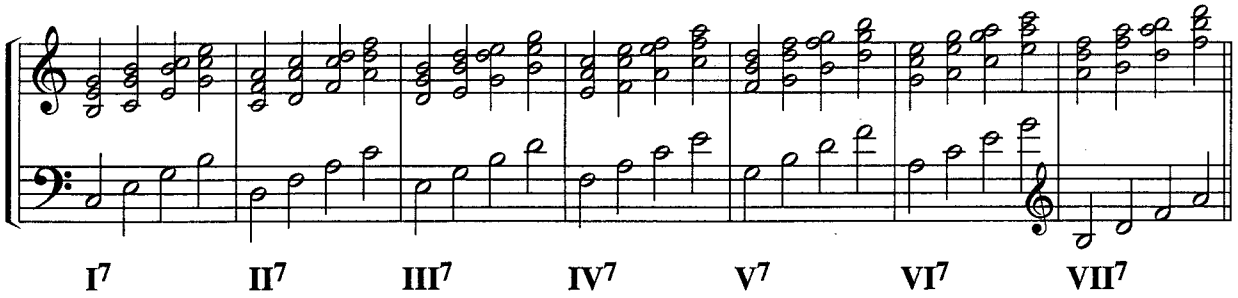
Inversions of the 7th chords in closed position on the degrees of the C major scale



Inversions of the 7th chords in drop-two position on the degrees of the C major scale



Inversions of the 7th chords in drop-three position on the degrees of the C major scale



- **If the *e* in the above examples is altered to $e^{\flat}$, the C major scale changes to C melodic minor.**
- **If the *e* as well as the *a* are altered to $e^{\flat}$ and $a^{\flat}$ respectively, the C major scale changes to C harmonic minor.**
- **The C major scale becomes C aeolic (natural) minor if also the *b* is altered to $b^{\flat}$, the *e* to $e^{\flat}$, and the *a* to $a^{\flat}$.**

CHAPTER 3 SECONDARY DEGREES AND APPLIED DOMINANTS

In the preceding chapters we have seen the progression of the primary degree of the dominant and subdominant to the primary degree of the tonic: I→V^7→I, and I→IV →I. In lesson 13 we leaned that besides the primary degree IV, also II has subdominant function. The progression II^7→V^7 was discussed, and finally the complete II^7-V^7-I progression: subdominant → dominant → tonic. Chords on the scale degrees II, VI, III and VII we will call the *adjacent* or *secondary degrees*. In this chapter we will discuss their application. Furthermore, the concept of *secondary* or *applied dominant* will be introduced. Applying secondary degrees or inversions of primary degrees, adds to harmonic motion and to the liveliness of the melody of the bass.

Lesson 15 VI^7 in major (Am7 in C)

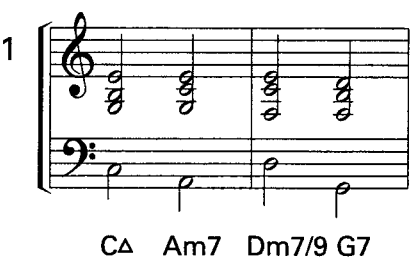
This lesson deals with the tonic function of VI and with the link which the chord makes with the subdominant in progressions like I-VI-II-V.

15.1 In lesson 5.1 we saw that adding an *a* below a C triad, resulted in an Am7 chord. An Em triad with *c* in the bass resulted in a C△ chord. The common tones of C, primary degree of the tonic, and Am and Em, secondary degrees of the tonic, give these chords a *third* (3-5) *relation** as well as a functional similarity. Consequently, in the key of C major Am, Am7, Em and Em7 mainly have a tonic function.

15.2 In the V^7-I progression in lesson 9 we saw a C6 chord formed by letting the major 7th of C△/9 descend to the 6 and the 9 to the octave doubling of the root. C6 and Am7 are composed of the same tones (NB!). Only the bass in the root position differs; Am7 has an *a* and C6 a *c* in the bass. This *c*, in combination with the rest of the chord, causes a definite ending in the key of C. In contrast, with *a* in the bass, a dynamic tonic is formed. The VI (adjacent tonic) we seldom hear as a conclusion of a piece of music, but frequently as a link to a subdominant chord by which the harmonies move away from the tonic.

15.3 Am7 and the F triad, like F and Dm7, have a third relation. The VIth degree (Am or Am7) can, due to this relation, under certain circumstances also have a subdominant function in the key of C. In that case a chord with dominant or tonic function follows on VI.

15.4 Examples 1–4 show some simple I-VI^7-II^7-V^7 progressions in C major. The first four bars of I GOT RHYTHM can be sung on these chords (as well as many other melodies).



* E.g. the third (3) of Am equals the 1 of C, and the 1 of Em equals the 3 of C. The 3 of C equals the 5 of Am and the 3 of Em the 5 of C. The 3-5 relation is normally abbreviated and written as third relation.

15.5 With the given lead and root tone in the bass, the voice leading in the examples moves over the shortest possible distance. Also the chords are complete; none of the chord tones are left out.

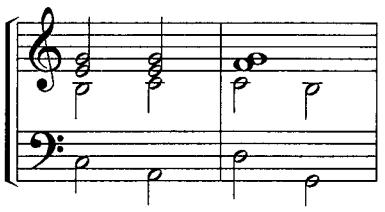
The I-VI^7-II^7-V^7 progression is in fact no more than an extension of the I-V^7 progression, if we keep in mind the fact that II^7 (Dm7) is nothing but a preparation (suspension) for V^7 (G7) and VI^7 (Am7) is a tonic with a different bass. We can verify this by singing the first four bars of I GOT RHYTHM on:

‖: C $C_{/G}$ | G7sus$_{/D}$ G7 :‖ as well as on:

‖: C△ Am7 | Dm7 G7 :‖

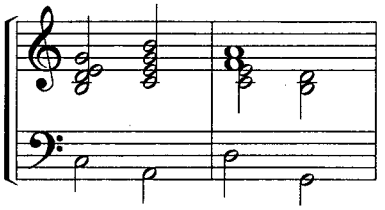
The simplified chords in the first progression (I→V^7) also give a perfectly acceptable harmonization.

2



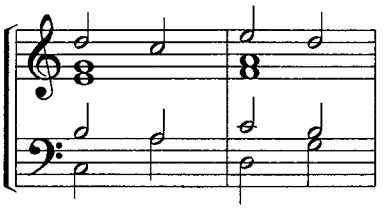
C△ Am7 Dm7/11 G7

3



C△/9 Am7/9 Dm7/9 G7

4



C△/9 Am7 Dm7/9 G7

15.6 In traditional harmony VI is often followed by IV:

C→**Am**→**F**→Dm→$C_{/G}$→G7→C

Exercises:

- ✔ Play the examples on the piano and transpose them to some nearby keys.
- ✔ Play the given examples of I GOT RHYTHM.
- ✔ Play the following chord progressions in different ways with the correct voice leading and sing the first four bars of I GOT RHYTHM to:
  - ✘ F△ Dm7 |Gm7 C7 | and
  - ✘ G△ Em7 |Am7 D7 |
- ✔ Add the 9th to some of the chords.

Lesson 16 III^7 in major (Em7 in C)

Em7 and C have a similar third (3-5) relation as Am7 and C. We might say that Em7 is a C△/9 chord with *e* in the bass and a *silent root*. Therefore, the progression G7→Em7 is not unusual in the key of C major. Em7 is, like Am7, a dynamic tonic. In the key of C major we will hardly ever hear it as a conclusion of a piece of music.

16.1 The relation between G and Em7 is analogous to the one between C and Am7 (NB!). That's why we would expect Em7 also to have dominant function in C. Although, basically this is correct (Em7$_{/G}$), in jazz music this function of III is

overshadowed by the stronger dominant quality of the G7/13 chord. In minor (harmonic and melodic), however, the dominant function of III, as we will see, has survived: $E^{\flat}+/G$ ($E^{\flat}$ augmented with *g* in the bass) is a frequently used dominant in C minor. See also lesson 38.12.

16.2 Examples 1–4 show some III^7-VI^7-II^7-V^7 progressions that could end up on I (tonic). There are three strong progressions; all chords have a fifth relation.

16.3 Although the voice leading of III^7-VI^7 in the examples is not very strict, the 7 preferably descends stepwise. In example 1 we see a doubled *c*; both *d* and *b* move to the 3 (*c*) of Am7. Of course on the piano this doubling of the *c* is impossible to observe. If these voices would be played by two instruments (e.g. two saxophones), both would play the *c* (compare the movement of *b* and *d* at the same spot in example 2).

To give the chord a different colouring, the lower 3 of Em7 and of Dm7 in example 3 is substituted by the 4 (*a* and *g* respectively).

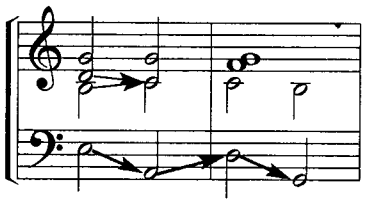
16.4 The lead of G7 in example 4 falls a 7th to the 3. The entire voice leading seems to be confused at this point. In order to keep the voices below the lead, the resolution of the 7 (*c*) of Dm7 in the third voice is taken over by the lead in this case, and the other voices will have to move along with it. Necessity knows no law!

16.5 In examples 5–8, Em7 takes the place of the tonic (I). Instead of resolving to $C\Delta$ or C6, G7 resolves to Em7. In all these examples we see an exception to the customary descending resolution of the 7. Notice: *f* ↗ *g*.

In the $V^7 \rightarrow III^7$ *progression the bass takes over the normally descending resolution of the 7, whereby the 7 is free to ascend.*

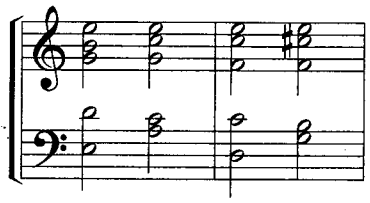
16.6 In all examples the 3 (*b*) of G7 leads to the 7 (*d*) of Em7 or keeps its position, and changes into the 5 (*b*) of Em7.

1



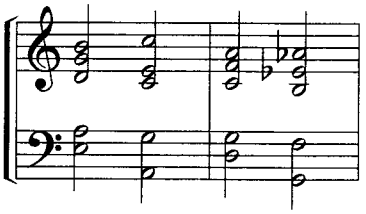
Em7 Am7 Dm7/11 G7

2



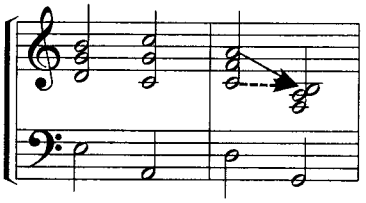
Em7 Am7 Dm7/11 G7

3



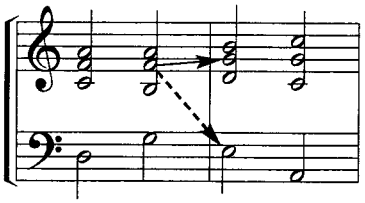
Em7 Am7/9 Dm7/9 G7

4



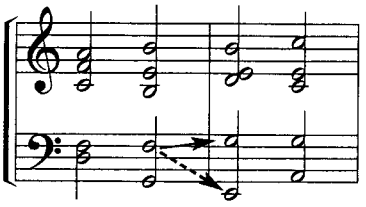
Em7 Am7 Dm7/9 G7

5



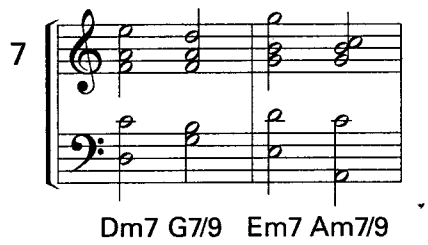
Dm7 G7 Em7 Am7

6

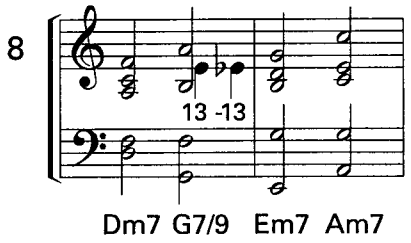


Dm7 G7/13 Em7 Am7

16.7 It is preferable not to double the root and the 5 of III^7, unless one of them is in the lead. In five-part harmony, the 3 of III^7 is preferably doubled and occasionally the 4 is added over the bass*(4↘7 see example.3).



16.8 In example 8 the 13 (*e*) of G7 descends in the usual way to *d* (here the 7 of Em7) by means of the passing tone –13 ($e^\flat$), while the 9 of G7 (*a*) moves stepwise down to the 3 of Em7, as it is supposed to.



16.9 For those who are interested in a summary of the possibilities for voice leading in the root-positioned V^7-III^7 progression:

7 *(f)* of G7 ↗ 3 *(g)* of Em7
9 *(a)* of G7 ↘ 3 *(g)* of Em7 or ↗ 5 *(b)* of Em7
5 *(d)* of G7 → 7 *(d)* of Em7
13 *(e)* of G7 ↘ 7 *(d)* of Em7
3 *(b)* of G7 → 5 *(b)* of Em7 or ↗ 7 *(d)* of Em7

We obviously have a wide choice of resolutions. For the appropriate voice leading our choice will have to depend mainly on the melody of the lead and on the rule of the shortest distance. The completeness of the chords and the doubling of certain voices also play a role in the voice leading. In the next lesson we will see that the voice leading for VII^7→III^7 has more restrictions, but as a consequence gives a little more hold.

Exercises:

✔ Play examples 1–4 and close them, with an acceptable voice leading, in a C chord.

✔ Play examples 5–8 and finish them with a II^7–V^7–I progression in the same key (Dm7 G7 |C ||). Observe proper voice leading.

✔ Play the following chord progressions with different voicings and lead:

Am7 Dm7 |Gm7 C7 | F ||
Cm7 Gm7 |Cm7 F7 | B$^\flat$ ||
Dm7 G7 |Em7 Am7 |Dm7 G7 | C ||
C$^\Delta$ Am7 |Dm7 G7 |Em7 Am7 |Dm7 G7 | C ||

Don't forget the voice leading, but don't let it bog you down.

✔ Transpose the above progressions into as many keys as possible and try to memorize them.

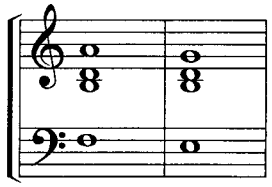
* One should be cautious to indiscriminately extend the III with a major 9th, since this tone is a non-scale tone (NB!).

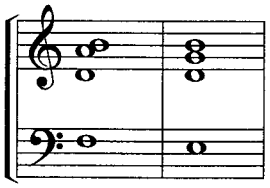
Lesson 17 VII^7 in major (B$^{\varnothing}$ in C)

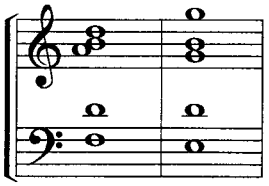
VII^7 in major is, as can be seen in the exercises in lesson 14 of chapter 2, the upper structure of a V$^{7/9}$ chord, i.e. B$^{\varnothing}$ is G7/9 with a silent root.

17.1 To simplify things, in examples 2 and 3 of lesson 14, we can read G7/9/D while in fact we are dealing with the first inversion of VII^7: B$^{\varnothing}$/D (NB!).
To figure out the root position of a seventh chord, we have to bring it back to superimposed thirds, i.e close position. To do this, we should remember that the interval of a whole step (second) is the inversion of a seventh – the intervals are complementary – and a seventh gives room to three thirds. If the top note of the second, which is the root tone of the chord, is dropped an octave, the remaining chord tones can be placed between the tones of the thus formed seventh; the root position of the chord comes out.

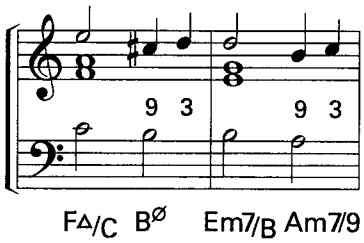
17.2 The root position of VII^7 in major does not frequently move to the root position of I. The most common progression is VII^7→III^7 (in C: B$^{\varnothing}$→Em7). We are used to interpret a chord progression like this as: G7/9 CΔ/9 or as Dm7/9 G7/9 | CΔ/9 C6 | with a silent bass, usually with the 7 (*f*) of G7 at the bottom. This is exactly one of the characteristics of VII^7: B$^{\varnothing}$ resembles G7/9 with a silent root (see below).*

1 

2 

3 

17.3 We have already encountered a number of the examples in this lesson in preceding lessons. The essential difference, however, concerns the bass. Compare example 1 above with example 5a in lesson 9, example 4 below with example 5b in lesson 9 and example 3 in lesson 14. With the exception of the bass and the neighbouring tones in the melody, they are pretty much the same.
The examples make it clear that in a VII^7→III^7 progression (B$^{\varnothing}$→Em7) the root position is seldom heard in both chords at the same time. One of the two has the root in the bass (example 4). Frequently we hear between the 7 (*a*) of B$^{\varnothing}$ and the 3 (*g*) of Em7 a chromatic passing tone ($a^{\flat}$). Try it!
Notice the doubled *g* in example 3 as a result of the leap in the lead.

4 

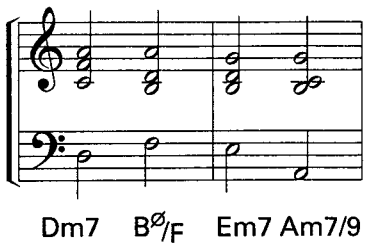
17.4 The voice leading in B$^{\varnothing}$→Em7 is basically the same as in G7/9→CΔ/9, but in the former progression the bass (*g* and *c*) is silent in both chords. In example 5 we see:

* The 7 of G7 is the 5 of B$^{\varnothing}$. When the 5 of a 7th chord is in the bass, the chord is said to be in $\frac{5}{3}$ position; $\frac{5}{3}$ is added to the Roman numeral.

5 of $B^{\varnothing}$ (*f*) ↘ 1 of Em7 (*e*)
7 of $B^{\varnothing}$ (*a*) ↘ 3 of Em7 (*g*)
1 of $B^{\varnothing}$ (*b*) → 5 of Em7 (*b*)
3 of $B^{\varnothing}$ (*d*) → 7 of Em7 (*d*)

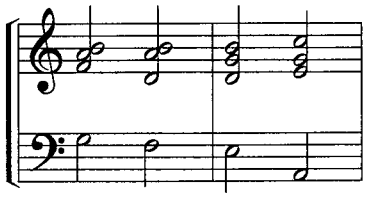
Compare the movement of the voices with those in G7/9→C△/9.

5



17.5 The voice leading for doubled voices, e.g. the lead *d* on the 3rd beat of the first bar in example 7, allows more freedom of movement. The lower *d* becomes the 7 of Em7, comparable with the 9 of C△/9, and the higher one in the lead moves (leaps) to wherever we want it to move (see also example 3). A similar progression, but now in minor, is found in example 9 of lesson 20.6.

6

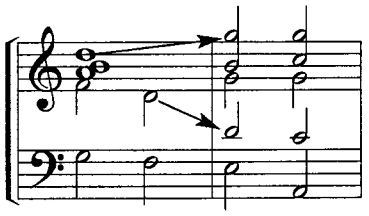


17.6 The voice leading of the G7/9→$B^{\varnothing}/_F$ progression is simple:

1 (*g*) of G7 ↘ 5 (*f*) of $B^{\varnothing}$
7 (*f*) of G7 ↘ 3 (*d*) of $B^{\varnothing}$

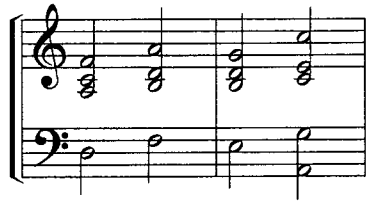
and the 9 (*a*), the 3 (*b*) and the 5 (*d*) usually keep their places (example 6 and 7).

7



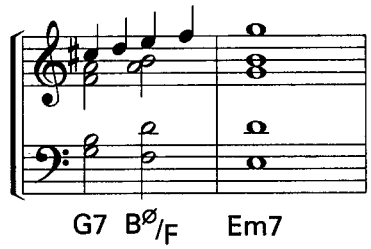
17.7 The number of voices and the voice leading in example 8 are again adapted to the lead. The leaps in the lead result in the doubling of the 3 (*c*) of Am7 (compare example 6). The progression of three four-part chords ends up in a five-part Am7 chord.

8



17.8 Because of the stepwise ascending melody, the voice leading in the progression V7→VII$^{4}_{3}$ (5 in the bass) in example 9 is also a little different.

9

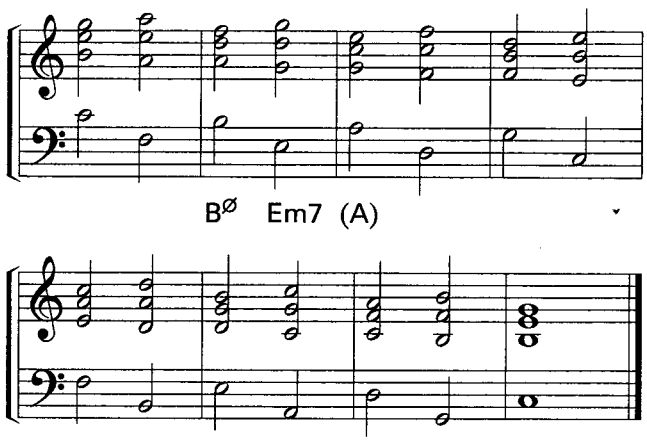


17.9 One hears the root position of VII7 move to a root-positioned III7 only in a II7-V7 progression in aeolic (natural) minor, e.g. Fm7→B♭7 in c minor, or in a traditional diatonic sequence in major, in which the key is established. See example 10 below. In jazz music, however, one more likely expects to hear a dominant 7th chord on III following VII7. In that case a more common harmonic minor II7-V7 transition to VI is formed. In C: $B^{\varnothing}$→E7→Am. We will come to the minor progressions in chapter 4.

In example 10 we see a simple diatonic sequence, with falling fifths (raising fourths) in the bass, in C major. The second chord of every bar has a doubled third and the 5 is left out. This is the result of the appropriate descending

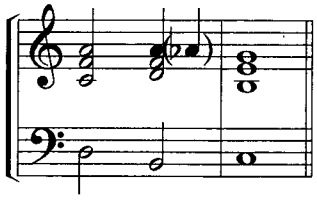
voice leading of the 7ths of the first chord of each bar. The sequence can also be in three-part harmony in which case the lead will be left out and the second voice becomes the lead. When the progression starts and finishes on Ami, the sequence is in the key of A aeolic minor. The sequence can also close on an A major triad on the first beat of the third bar. In that case we hear a surprise.

10



17.10 As mentioned in 17.2, not too often we hear VII^7 in root position move to a root-positioned I in major. Usually a chromatic passing tone ($a^\flat$) is heard between the 7 (a) of VII^7 and the 5 (g) of I forming a diminished 7th instead of a half diminished 7th chord of VII (see example 11). The former originating from minor-major, on which we elaborate in chapter 4.

11



Exercises:

- ✔ Play and practice the examples on the piano.
- ✔ Compare the analyses of the voice leading with the examples 4–9.
- ✔ Close the examples, except example 9, with: | Dm7 G7 | C || The examples are all in the key of C.
- ✔ Close example 9 with the same II-V-I progression in C, but add an A7 chord between Em7 and the II.
- ✔ Transpose the examples 5 and 6, including the above mentioned ending, to the keys of F, B$^\flat$ and E$^\flat$. Try to memorise them.
- ✔ Learn the sequence in 17.9 (example 10) by heart and transpose it to all keys.
- ✔ Start the sequence somewhere in the middle.

Lesson 18 Secondary dominants (1).

The chord progressions we have encountered so far, have all a fifth relation, except I^7→VI^7 and V^7→III^7 (in C: CΔ→Am7 and G7→Em7). Such fifth relation is called a *dominant relation.* In many aspects it is comparable with the progression G7→CΔ; the bass drops a 5th and the voice leading with 7 to 3 and 3 to 7 is identical. For this

reason we can call Dm7 in the II^7-V^7-I progression a *figurative dominant* of G7. Likewise the Em7→Am7→Dm7 progression can be called a figurative dominants progression. A figurative dominant, however, lacks a very important ingredient of the real dominant; it doesn't possess a leading tone. By raising the minor 3rd of a m7 chord by a half step, we give the chord a leading tone and increase its harmonical dynamics. This makes a dominant seventh from a minor seventh chord: Dm7 becomes D7, Am7 becomes A7, etc. Thus the minor chord on the scale degree, composed of scale tones, changes into a *secondary dominant*. It takes the key of the adjacent tonic to which it resolves.

18.1 Like V^7, the dominant seventh chord in its role of secondary dominant can be preceded by a suspending m7 or sus chord. The chord on the scale degree for which the secondary dominant is applied as dominant, is called an *adjacent* or *secondary tonic*.

18.2 The secondary dominant in combination with a preceding suspending m7 chord is called *secondary* II-V *progression*. This combination, together with the adjacent tonic, temporarily causes a new key. Such a short departure from the main key we will call a *tonal excursion*. This short detour is not to be confused with a *modulation* in which the tonal centre changes totally.

18.3 Without extensions the dominant seventh chord in major is identical with the one in minor. Since the 9 and 13 in major are different tones from those in minor, the extended dominant seventh chord in major also differs from the one in minor. As II^7, III^7 and VI^7 in a major key are minor chords, one should take this consideration into account when a secondary dominant precedes one of these chords (see also lesson 20 and 24).

18.4 Frequently we hear a diminished seventh chord used as secondary dominant for II^7, III^7 and VI^7. Read more about this in lesson 22.

18.5 Besides the tonic (I), the primary degrees IV and V are the one and only major chords in a major key. The secondary dominants or secondary II-V progressions for these major chords function similarly as the V^7-I and II^7-V^7-I progressions with the original major tonic. To be able to play excursions to IV and V, the only new progressions we have to learn are those from I to the secondary dominant or secondary II-V for IV and V. This implies the voice leading for following progressions*:

C→C7 (→F) or C→Gm7 (→C7→F) and for:
C→D7 (→G) or (C→Am7→D7→G).

We have met the progression C→Am7 (I-VI) (lesson 15) and we are also supposed to be familiar with the II-V-I progressions in the new keys G and F.

18.6 The new chord progressions we have to learn are:
C→C7; C→Gm7; C→D7.
The examples 1 and 2 are straightforward and don't require elaborate expla-

* The progressions of which the voice leading is previously discussed, are placed inbetween parenthesis.

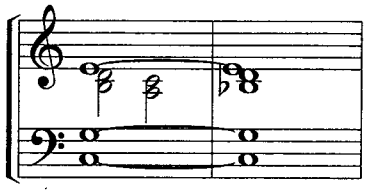
nation. C6 could have been left out and instead of the 3 (*e*) of C△/9 any other chord tone could have been in the lead.

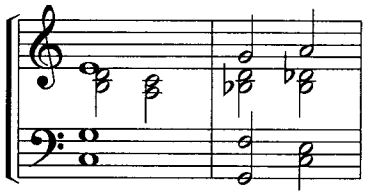
18.7 Somewhat more complicated is the progression C→D7. To avoid undesired *parallel motion* between the voices*, most voices have to move in *contrary motion* to the bass, or will have to keep their position. In example 3 and 4 we see:

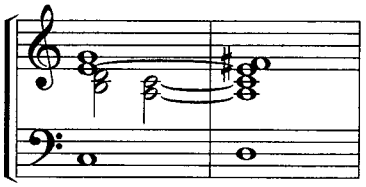
5 (*g*) ↘ 3 (*f♯*)
3 (*e*) → 9 (*e*)
9 (*d*) ↘ 7 (*c*)
8 (*c*) → 7 (*c*) or ↘ 13 (*b*)
6 (*a*) → 5 (*a*) or ↗ 13 (*b*)
△ (*b*) ↘ 5 (*a*) or → 13 (*b*)

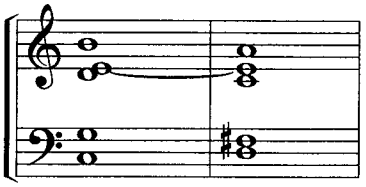
18.8 One has to realize that C→D7 in fact is similar to a IV→V7 progression in G major. For a IV→V7 progression, contrary motion between bass and upper voices always gives the best voice leading. The octave doubling of the root, the 3, and the △ or 6 of the C chord can keep their position; the 5 preferably descends stepwise. Compare 7↘3 in Am7→D7.

18.9 In example 5, D7 is preceded by a suspension (D7/sus4) which is the consequence of the good sounding parallel, stepwise descending intervals of a 10th in the drop-two position. In this example we see the octave doubling of the root of C6 descend to the 13 of D7sus4. In this progression the voice leading deviates somewhat from the one in the preceding examples.

1

C△/9 C6 C7/9

2

C△/9 C6 Gm7 C7/-9/13

3

C△/9 C6 D7/9

4

C△/9 C6 D7/9

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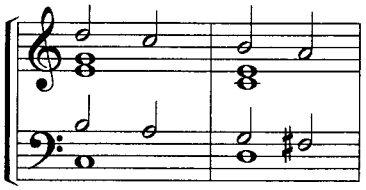
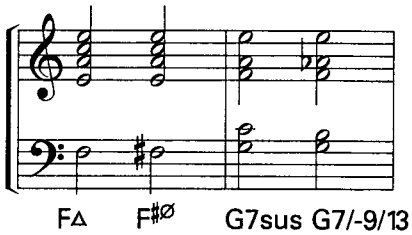

C△/9 C6 D7sus D7/9
(G: IV V7)

18.10 In examples 3-5, D7 is called the *double dominant* in the key of C. This is the specific name for the secondary dominant for V7. D7 functions as V7 in the key of G, which is called the *dominant key* of C.

18.11 Also a secondary VII can function as double dominant. In example 6 we see F♯ø preceding the suspended dominant G7(9/13)sus. F♯ø being VII7 in the key of G major and double dominant [VII7] in C major. Both chords are in root position. See also lesson 36.6.

6

F△ F♯ø G7sus G7/-9/13

* Like parallel fifths and octaves.

Exercises:

✔ Play the examples on the piano and practice them.

✔ Close the examples 1 and 2 in F and the examples 3–5 in G.

✔ Play the progression below in 3-part harmony. Begin with the △ in the lead and have the two upper parts move the shortest distance possible. Do the same exercise, this time beginning with the 3rd (*e*) in the lead.

✘ C△ | Gm7 C7 | F△ | Cm7 F7 | B♭△ | Fm7 B♭7 ..., etc.

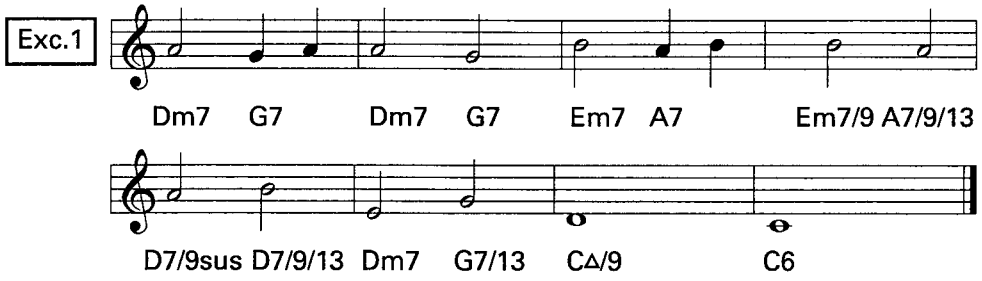
✔ Continue the progression as a sequence from E♭ going to G♭ and A. When the register gets too high, drop one octave.

✔ Play the chord progressions below in 4- or 5-part harmony. Pay some attention to the melody in the lead. Don't start in too low a register.

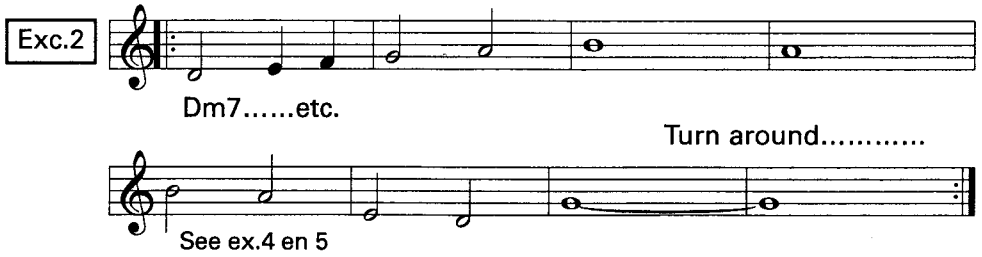
✘ F△/9 F6 | Dm7/9 G7/9 | C△/9 C6 | Am7/9 D7/9 |
G△/9 G6 | Em7 A7/9 | Dm7/9 G7/9 | C ||

✘ Fm7/9 B♭7/9/13 | E♭△/9 E♭6 |B♭m7 E♭7/9 | A♭△ A♭6 |
Fm7/9 B♭7/9/13 | Gm7 Cm7 | Fm7/9 B♭7/9 | E♭6 ||

✔ Play exercise 1. In places where they are not given, try to find the chord extensions yourself.



✔ Play the melody of exercise 2.

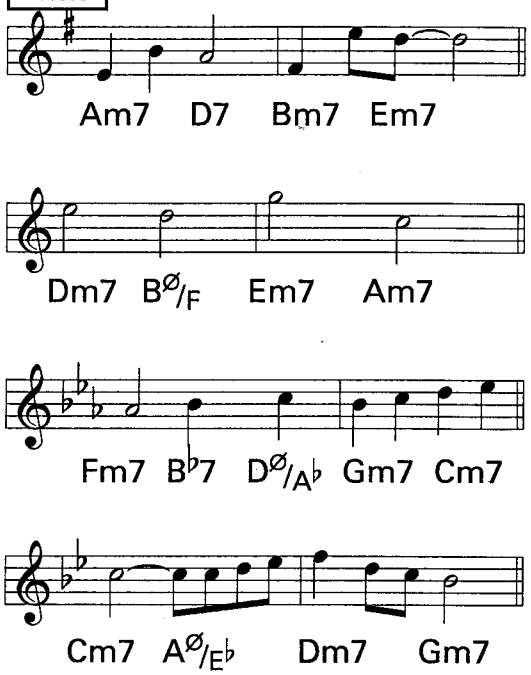


✔ Find the harmonies without the extensions and link up the last chord with the first one (turn around).

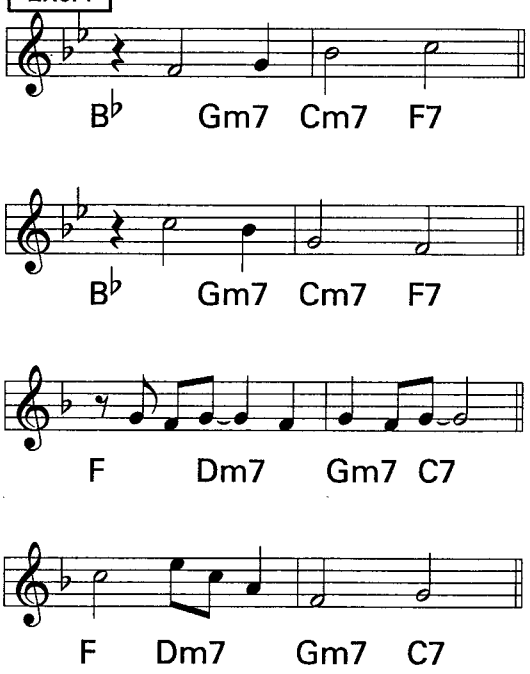
✔ Add a few extensions to the chords, without losing sight of correct voice leading.

✔ The exercises 3 and 4 also put into practice some of the subjects we dealt with in lessons 15, 16 and 17. Play them on the piano, and try to transpose them to as many keys as possible.

Exc.3

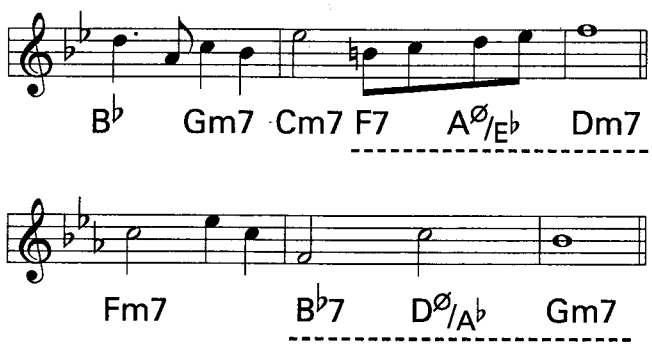


Exc.4



✔ The following exercises show two short melodic fragments such as we can encounter in practice. Harmonize the fragments with $V^7 \rightarrow VII^4_3 \rightarrow III^7$ progressions (underlined). Transpose these also to nearby (easy) keys. First play the melody in the new key, then add the bass and finally try to find the appropriate harmonies to the melody. Don't forget to distribute the voices of the chords over both hands as much as possible.

Exc.5



POINTS TO REMEMBER

- The concept of *harmonic function* is one of the main elements of the theory of harmony. It underlies the logic of the progression of the harmonies and defines the activity and interrelation of the three so-called *harmonic functions*: tonic, dominant and subdominant.

  The three functions are represented by three triads of which the root tones are a perfect fifth apart. It is customary to name these triads after the function they represent. Superimposing these triads shows *the tonic* triad in the middle, *the subdominant* triad at the bottom and *the dominant* triad at the top (see also lesson 6.3). These triads are called the *primary degrees*.

  The stepwise arrangement of the tones of the superimposed triads structure forms the scale of the key which bears the letter name and mode of the tonic.

- The tonic triad is positioned on the first tone (degree) of the scale. A chord in root position on that tone is called Ist degree.

  In a tonic chord the harmonic activity usually comes to a rest. That rest can be of temporary nature or it can, after a *cadence*, generate a final closure. In the latter case the chords in the progression dominant→tonic or subdominant→tonic are in root position.

  All inversions of I, as well as the root-positioned chords on the 6th and 3rd tone of the major scale (VI and III) and their inversions can have tonic function. They form *dynamic tonics*. These chords always have a temporary character and generate no final closure.

  In principle the Ist degree can be followed by any chord.

- The root tone of the dominant triad is positioned on the fifth tone of the scale. This tone is also the fifth of the tonic. A root-positioned scale-tone chord on that tone is called the Vth degree (V); the primary degree of the dominant.

  The main activity of a chord with dominant function is leading the harmonies to a chord with tonic function; in a closure or in a progression. The leading tone (seventh tone of the major scale), as a rule, is a component part of a chord with dominant function.

  Chords on the 7th and 3rd tone of the major scale (VII and III) can also have dominant function – in jazz III rarely has. A chord with dominant function can, besides by a tonic or tonic substitute (VI and III), be followed by any arbitrary secondary dominant and in some cases by a subdominant.

- The root tone of the subdominant triad is positioned a fifth below the root of the tonic. The primary degree of the tonic, therefore, is the dominant of the subdominant. A scale-tone chord in root position on the 4th tone of the scale is called the IVth degree; the primary degree of the subdominant.

  Chords on the 2nd and 6th tone of the major scale (II and VI) can also have subdominant function – in jazz VI only has in some cases. In a chord with subdominant function the leading tone usually is absent and, as a rule, the root tone of I is part of a chord with subdominant function.

  Like a dominant chord, a chord with subdominant function can directly resolve to the tonic. In that case we speak of a *plagal progression*. This progression usually has a weaker character than the *authentic progression* dominant→tonic.

  A chord with subdominant function, besides resolving directly to the tonic, can also steer the harmonies away from the tonic. In major the VIth degree is the foremost scale-tone chord connecting the tonic with the subdominants IV and II. The tonic itself (I) can also directly precede IV (dominant relation), and in some cases II.

  Furthermore, preparing the dominant is an important quality of a subdominant; in jazz II^7 specifically possesses this quality.

For the deviating harmonic functions of the chords in minor, the reader is referred to chapter 4.

CHAPTER 4 MINOR AND MINOR-MAJOR

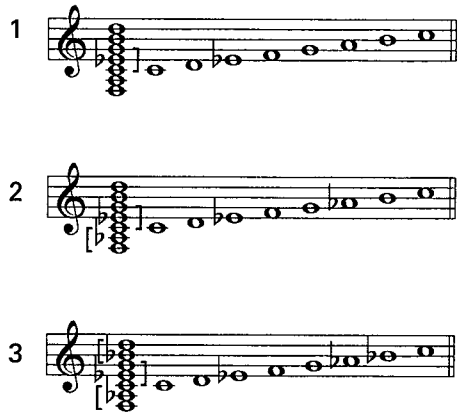
In chapter 1, lesson 7 we have become acquainted with the chords on the scale degrees of the three minor scales. Since their application, voice leading and even their harmonic function differ to some extent from those in major, this chapter will treat them separately. Also the secondary dominants in minor are a little different from those in major.

The exercises in this chapter incorporate a few of the topics treated in the previous chapters as well.

Lesson 19 Scale degrees in minor and minor-major

19.1 Examples 1-3 show the superimposed triads of the three primary degrees, and their resulting scales in C minor for the three different minor modes:

1 = melodic
2 = harmonic
3 = natural (aeolic)



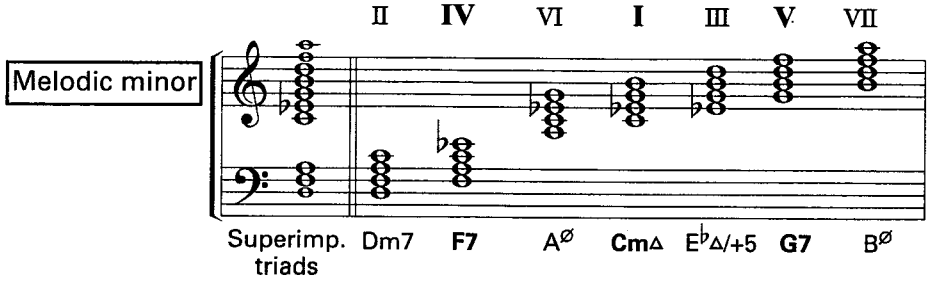
19.2 In the superimposed triads of example 1, only the triad in the middle (tonic) is a minor triad. This forms the melodic C minor scale.

In example 2, not only the middle but also the bottom triad (subdominant) is minor. This gives C harmonic minor.

In example 3, all the triads are minor. They form the aeolic minor scale. This scale is also called natural minor.

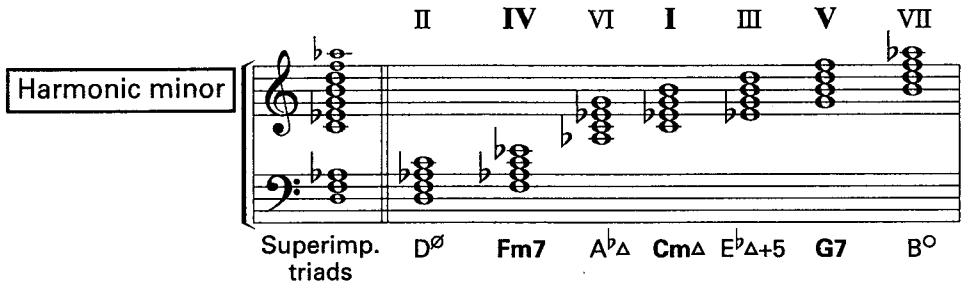
Note that the differences between the three minor scale modes occur in their higher part. The combination of the 6th and 7th tone differ in each scale.

19.3 The three examples below show the seventh chords on the scale degrees of the three minor scales. The secondary degrees (II, III, VI and VII) are found on either side of the primary degrees (I, IV and V), the letter symbols of which are printed in bold under the chords.



19.4 Because of their similarity with the major mode, II (subdominant) and VII (dominant) occur less frequent in melodic minor. We usually hear the tonic (Cm△), its substitute VI ($A^{\varnothing}$), and IV (F7), which is mainly used in the blues in (C) major, 'borrowed' from melodic minor.

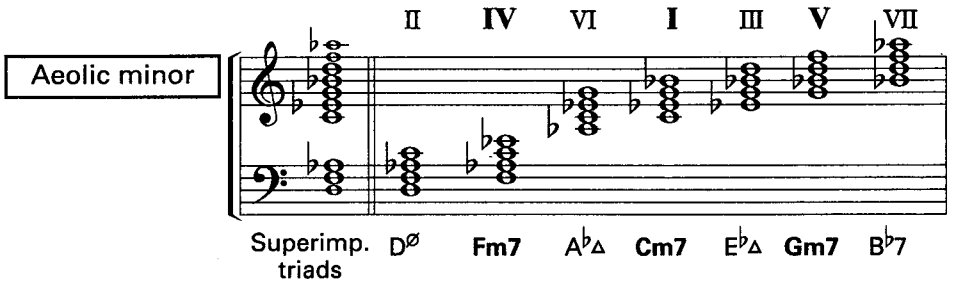
19.5 When one speaks of minor, as a rule the harmonic minor mode is meant. All degrees of harmonic minor occur with the same frequency.



19.6 In aeolic minor I^7, III^7, V^7 and VII^7 differ from the seventh chords on the same degrees in harmonic minor. Of these, VII^7 aeolic is used frequently in jazz and I^7 occasionally. In major we hear of course the minor 7th chords on II, III and VI often functioning as adjacent tonic of a secondary dominant. For example: C→A7→**Dm7** in the key of C.

Contrary to the customary dominant function of VII in major, the dominant seventh chord on VII in aeolic minor, $B^{\flat}7$ in C minor, has mainly subdominant function. It is often used instead of, or in combination with IV^7 (Fm7). The minor 7th of I, the $b^{\flat}$ of Cm7, usually is a passing tone between the major 7 (△) and the 6, as we have seen also in major in example 5 of lesson 14*. It can also function as a passing tone in the bass between the roots of I and VI. In C minor this would be a $b^{\flat}$ descending from c to $a^{\flat}$:

Cm6→Cm7/B♭→A♭△**. Also see 19.7.



19.7 In jazz the VIth degree of harmonic or aeolic minor (A♭△) usually has subdominant function and precedes V^7 (G7) or occasionally I (plagal progression). Sometimes VI^7 is followed by IV^7 and II^7 in a descending progression:

Cm Cm7/B♭ | A♭△ Cm/G | Fm7 Fm7/E♭ | D∅ G7 |

In this progression VI can be regarded as a passing tonic substitute. Once in a while we hear the triad of VI with the third in the bass. Often this chord is erroneously identified as m/+5: Cm Cm/+5 (?)| Cm6 Cm/+5, etc. In such

* Unless the m7 chord is a deliberate colouring of the tonic, or the m7 chord is the tonal center of a Dorian, Phrygian or Aeolian mode, should one hear a m7 chord in root position on the Ist degree, one can in most cases assume that it is a habit of the player who confuses a minor chord (Cm, Cm6, Cm△, etc.) with that of a m7.

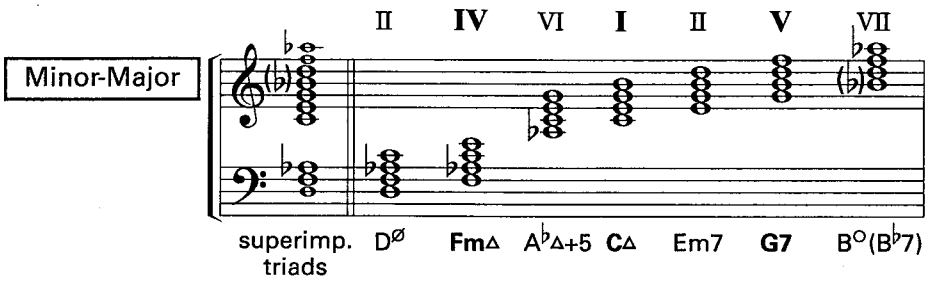
** In such a progression the bass moves stepwise, by which some of the chords will be in another position than the root position.

cases the apparent (enharmonized) +5 ($a^{\flat}$) is a passing tone between 5 and 6 ('James Bond fifth'). Should we hear a I-VI-II-V progression in minor, we can usually assume that the VI is derived from melodic minor. In C minor:

Cm(6 or △) $A^{\varnothing}$ | $D^{\varnothing}$ G7/–9 | (I GOT RHYTHM in minor)

19.8 Although the so-called minor-major mode is not a true minor scale, it possesses so many characteristics of minor that it is appropriate to include it in this lesson. The triad of I in the superimposed primary-degree triads in minor-major is a major triad, as it is in the major scale, but the triad on the IVth degree (subdominant) is a minor triad. Hence, in order to form a minor-major scale, the 6th tone of the major scale, the *a* in C, is lowered to $a^{\flat}$. In minor-major the 7th tone of the scale, the *b*, can also be lowered.

The lowered VIIth degree, $B^{\flat}7$ in C major-minor, has subdominant function; the 7th chord of VII on the leading tone, B^{o}, usually has dominant function.



19.9 The preceding section shows that the minor-major scale also has a few different faces. On the dominant (G7 and B^{o}) the *harmonic* ***major*** scale is applied: only the 6th tone is lowered, while on the subdominant ($D^{\varnothing}$, Fm△, $B^{\flat}7$ and $A^{\flat}$△/+5) the 6th **and** 7th tone of the scale is lowered. We see the *aeolic* ***major*** scale, being the same scale as the melodic minor scale of F beginning on *c*.

The minor-major mode does not apply to the tonic functions I, III and VI.*

Exercises:

- ✔ Play the chords of the first four bars of I GOT RHYTHM in minor (see section 19.7).
- ✔ Play the descending progression of 19.7 in a few minor keys.
- ✔ Play the root position of the chords on the degrees of the three minor modes of C minor in the mixed position (root-seventh-third-fifth).
- ✔ Do the same with the three minor modes of: A, D, G and F minor.
- ✔ And eventually with the scales of all minor keys.
- ✔ Play the descending progression of 19.7 in a few different keys.

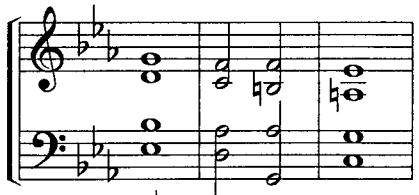
* One perceives the I of a minor-major melody with lowered 6th and 7th tones as a secondary dominant for the minor-major or the minor IV. The VI in minor-major ($A^{\flat}$△/+5 in Cmm) normally has subdominant function or appears as passing tone in the bass between Am and C♯ (*g* in the bass).

Lesson 20 Voice leading and chord extensions in minor

The voice leading of the chord progressions, and the extensions of the chords in minor are, in principle, the same as in major. However, in some cases there are small differences. Specifically, one must remember that in minor the 6, 9 and 13 are preferably derived from the same scale – minor or major – as the chords. The extension of a m7 or half diminished chord with the 9 can be an exception to this (see below).

20.1 Examples 1 and 2 show that the voice leading of the II-V-I progression is the same for both major and minor. Whereas we do not often hear the III-II-V sequence in major, in aeolic minor the III followed by a II-V-I progression, is quite common. This progression is identical with the transition from the tonic ($E^{\flat}$) to its relative minor key (C minor), by way of a secondary II-V. This is a secondary dominant (G7) preceded by its suspending minor 7th chord or half diminished chord ($D^{\varnothing}$), which means a II-V progression in the key of the adjacent tonic (Cm6). The voice leading is according to the rules.

1



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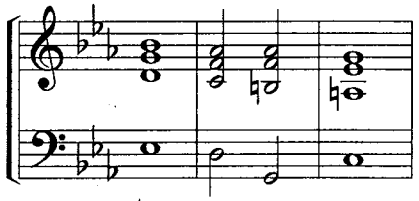
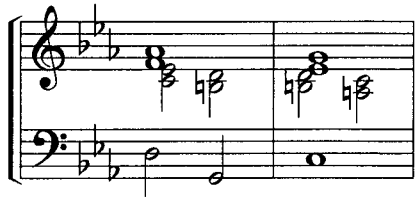


20.2 The minor 9th as an extension of the II^7 in minor ($D^{\varnothing}$/–9) should be used with care, especially if the extension occurs in the middle voices as shown in example 3. This friction in the half diminished 7th chord is less jarring when the –9 is in the lead, as in example 4. Although the major 9th in II does not belong to the minor scale, as a rule, one should choose for it when it occurs in a middle voice. By resolving to the –13 in the subsequent dominant 7th chord (*e* ↘ $e^{\flat}$ in example 5), the minor quality of the chord progression is maintained. The harmonic tension of the –9 in the lead of II^7, however, can in fact produce an attractive dramatic effect (example 4).

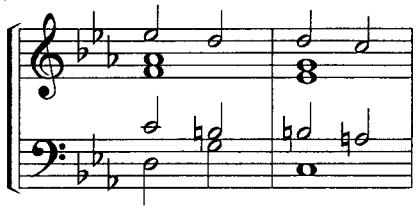
Careful!

3



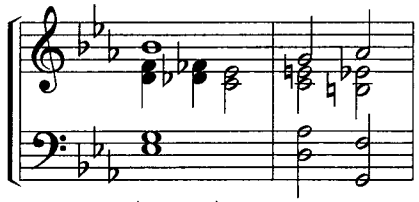
Dramatic!

4



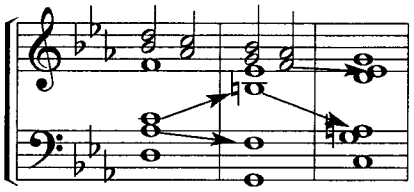
20.3 The voice leading in example 5 deviates from that in major. This is because the 3 (*f*) in the $D^{\varnothing}$ chord is missing (NB!). In

5



example 6 we see the 5 ($a^\flat$) of D$^\varnothing$ descending to the lower 7 of G7, which ascends in its turn to the 5 of Cm6/9 (NB!). The higher octave double of the 7 of G7 descends to the 3 in accordance with the rules. Here also: *The more voices, the freer the voice leading.*

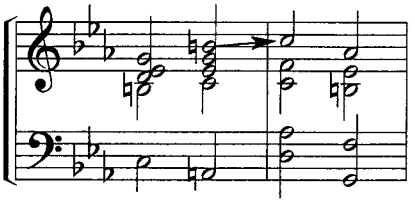
6



D$^\varnothing$/13 D$^\varnothing$ G7 Cm6/9

20.4 The 9 in the lead of VI of the melodic minor scale (the *b* in A$^\varnothing$/9 in example 7) usually resolves upward rather than downward, the customary resolution of a ninth. In contrast to major, in melodic minor this tone sounds more like an ascending leading tone (*b*↗*c* instead of *b*↘$a^\flat$).

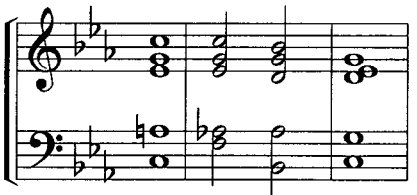
7



Cm△/9 A$^\varnothing$/9 D$^\varnothing$ G7/-9/-13

20.5 In aeolic minor, the progression of VII (B$^\flat$7) to I (Cm/9) is like in major; see example 8. The 7 ($a^\flat$) resolves to the 5 (*g*) and the 3 (*d*) normally ascends to the 3 ($e^\flat$) of I or keeps its place as a 9. The voices move from Cm6 to Fm7/9 taking the shortest possible distance. It is not unusual that such a minor progression ends in major. (*'Picardian third'*).

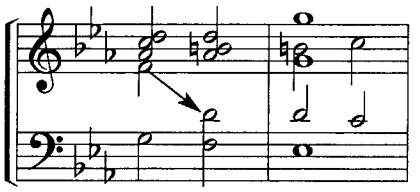
8



Cm6 Fm7/9 B$^\flat$7/13 Cm/9

20.6 In example 9 we see V^{7}sus→VII$^4_3$ (F$^\circ$ is B$^\circ$ with 5 in the bass) of harmonic minor resolve to III^7 (E$^\flat$△/+5). This last mentioned chord is a suspension for Cm with the third ($e^\flat$) in the bass. This third should not be doubled. Chords with an augmented 5th (the +5 is $e^\flat$–*b*) are unstable, and normally function as dominants or embellishing chords, and in some cases as subdominants. See also lesson 38. The arrow from the *f* in the upper staff to the *d* in the lower staff indicates the voice leading as well as the change of thumbs.

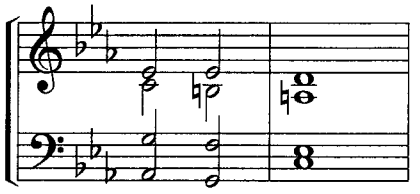
9



G7/-9sus4 F$^\circ$ E$^\flat$△/+5 Cm/E$^\flat$
V^{7}sus VII$^4_3$ III

20.7 Examples 10-12 show the VI-V-I progression of harmonic minor. As a rule, the voices in this progression move the shortest possible distance. In the examples, A$^\flat$△ has subdominant function and paves the way for the dominant. A$^\flat$7→G7 would also be appropriate. We shall encounter this kind of progressions in lesson 26 on the *tritone related secondary dominants* and in lesson 36 on *altered chords.*

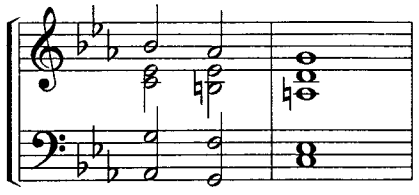
10



A$^\flat$△ G7/-13 Cm6/9

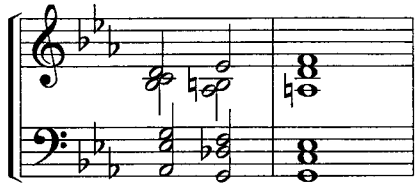
20.8 The use of the 11 (*f*) as extension in the closing chord Cm6/9 in example 12, occurs exclusively in minor. In a major chord the 4 or the 11 cause a hard dissonant, which is seldom heard in a closing chord. The +11, on the contrary, is customary in a closing chord. See also lesson 27.12.

11



A♭Δ/9 G7/-9/-13 Cm6/9

12



A♭Δ/9/+11 G7/-9/-13/-5 Cm6/9/11

Exercises:

- ✔ Reread the preceding section paying close attention to the examples.
- ✔ Play all the given examples, and mind the 3 key signs ($b^\flat$, $e^\flat$ and $a^\flat$).
- ✔ Transpose examples 1, 2 and 10 to as many keys as you can.
- ✔ Transpose example 4 to D minor and B♭ minor.
- ✔ Transpose example 8 to D minor.
- ✔ Play the following progressions on the piano until you play them with ease:
  - ✘ CmΔ/9 A$^\varnothing$ | A♭Δ/9 G7/–9/–13 | CmΔ/9 Cm6 | Fm7/9 B♭7 | E♭Δ/9 E♭6 | D$^\varnothing$ G7 | CmΔ/9 Cm6 | D$^\varnothing$ G7/–9 :‖
  - ✘ F | E$^\varnothing$ A7/-9 | Dm6 Dm7/C | B$^\varnothing$ E7/-9 | Am6 F♯$^\varnothing$ | B$^\varnothing$ E7/-9 | Am7 D7–9 | Gm7 C7 :‖

Deviate a little from the customary voice leading if the chords threaten to come in a too low register by doubling the 3 or the 7 one octave up. Change, if necessary, from four to five part harmony (v.v.). If a chord extension doesn't sound right, leave it out, but try to understand why a certain tone does not sound right. Always listen with a critical ear.

Lesson 21 Voice leading in minor-major

With the exception of all the subdominants (IV, II, ♭VII and ♭VI), the diminished 7th on VII, and the dominant seventh chord extended with a (minor) 9th on V, the minor-major mode (mm mode) is identical with major. Minor-major is rather a variant of major than an independent mode.

21.1 One doesn't speak of a piece of music in such and such a 'minor-major key', only of a melody, a chord or chord progression derived from minor-major. If mm is mentioned, it will always be in connection with chords in which the lowered 6th tone of the scale is prominently present; i.e. in subdominants (IV, II, ♭VII and ♭VI), in diminished 7th chords on VII or in dominant 7th chords extended with the –9. One also speaks, in a wider sense, of a *mixture* of minor and major, or of *borrowed from minor*, but now including chords with the minor 3rd of the minor mode, used in major. Compare G7/–13→CΔ: The –13 ($e^\flat$) of G7/–13 is the (minor) 3rd of C minor applied in C major. However,

when we hear $D^{\varnothing}$ G7/–9 |CΔ C6 | we may say that $D^{\varnothing}$ (subdominant) and G7/–9 (dominant) are derived from minor-major, or that the progression is a mm progression; the *a*, 6th tone of the major scale, is lowered to $a^{\flat}$.

21.2 In minor-major one should take in consideration the descending tendency of the lowered 6th tone of the scale to the 5 of the tonic triad ($a^{\flat}\searrow g$ in Cmm). This aspect of the voice leading is specifically relevant for the subdominant functions and to a smaller extent for the diminished 7th chord on VII resolving to I or III. See also lesson 22.

21.3 The 7th of IVmm is, contrary to the 7th of IVminor, a major 7th (Δ). The minor 7th mainly functions as a passing tone between Δ and 6 in minor-major: F(m)$\Delta\rightarrow$F(m)7$\rightarrow$Fm6*, or as a suspension for the 6: Fm7$\rightarrow$Fm6 (NB!).

21.4 Characteristic of minor-major is the progression in which IV major is followed by IV minor (1) or by VII aeolic minor or minor-major (2). Bold face indicates the mm enclave:

(1) C | Gm7 C7 | F | **FmΔ Fm6** | Em7..... or

(2) C | Gm7 C7 | F | **$B^{\flat}$7(+11)** | C..... ($B^{\flat}$7 is also VII^7 in aeolic minor)

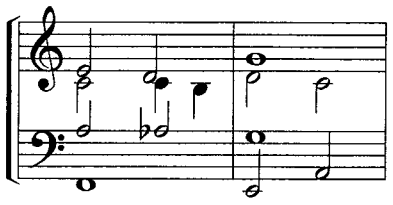
or the progression in which a diminished 7th chord of VII or a II-V progression from minor resolves to I or III of major :

C | **B°** | C | G7/9 **F°** | Em7 Am7 | **$D^{\varnothing}$ G7/–9** | **C** Am7 | Dm7 G7 :‖

In the second bar we see VII^7 in root position (B°), and in measure four with 5 in the bass (F°), both derived from minor-major.

21.5 In example 1 FΔ (IV) is followed by Fm6 $\rightarrow F^{\circ}\rightarrow$Em7. We see mm subdominant → mm dominant (substitute) → tonic (substitute). The dim chord of VII (F°= $B^{\circ}/_{F}$) could have been omitted. In that case we would have seen the plagal progression subdominant → tonic (Fm6→Em7).

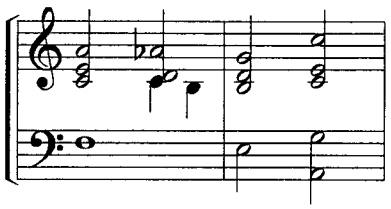
1



FΔ Fm6 F° Em7 Am7

21.6 Example 2 shows the same progression, but with a different lead. The four-part harmony changes to five-part (Am7). One easily identifies the mm subdominant in both examples as Fm6, although in truth the harmony is a II ($D^{\varnothing}$) with 3 (*f*) in the bass of which the dissonant (the 7 *c*) resolves to the leading tone (*b*); by analogy with 7↘3 in the II-V-progression $D^{\varnothing}\rightarrow$G7. In actual sound Fm6 and $D^{\varnothing}/_{F}$ are of course similar. See also sixte ajoutée (added sixth) in section 14.4.

2



FΔ Fm6 F° Em7 Am7

* The first two chords of this progression can be major or minor.

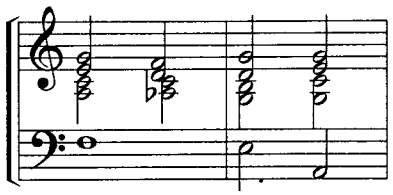
21.7 Example 3 shows the plagal progression mm subdominant (Fm6) → tonic (substitute Em7). In this, and the following examples, the dominant (F°) is absent.

21.8 The lead voice in examples 1 and 4 are identical. Example 4, however, shows the plagal progression: subdominant ($B^{\flat}7/9$) → tonic (Em7). Fm6 is substituted here by $B^{\flat}7$.

21.9 Fm△/9 in example 5 could have a $b^{\flat}$ in the bass. In that case we see a $B^{\flat}7$ chord of which 5 (*f*) and 3 (*d*) are suspended by respectively the 13 (*g*) and the +11 (*e*). Moreover, between the +11 and the 3 could be the passing tone $e^{\flat}$ and between the 9 (*g*) and the 5 (*f*) in the lead the passing tone $g^{\flat}$ (see also section 21.3). Try it!

In the above text the word 'tonic' always refers to a chord with tonic function.

3



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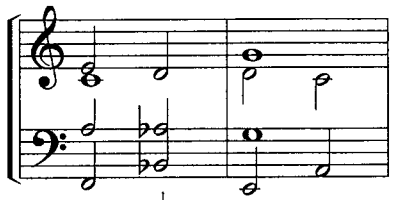

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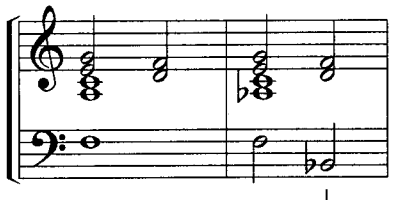


Exercises:

- ✔ Play all the given examples of this lesson, and transpose them to as many keys as possible.
  Nota Bene!: All examples are in the key of C and start with the IV.
- ✔ Close the examples 1-4 with a II-V-I progression in the key in which they are practiced.
- ✔ Close example 5 with a III-VI-II-V-I progression in C major.
  NB!: In mm the tonic substitute VI also is an Am7-chord instead of $A^{\flat}$△/+5. See also section 19.9
- ✔ Play example 5, concluded by the III-VI-II-V-I progression, in F, $B^{\flat}$, and $E^{\flat}$.
  Remember: All examples are in the key of C, and start with the IV. In case the progressions are too long to remember, write them down first.
- ✔ Always try, as much as possible, to memorize the examples.

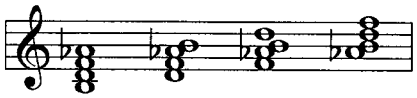
Lesson 22 The dim chord of VII and its role as secondary dominant

Because of its versatility in minor as well as in major, we shall in this lesson pay further attention to the diminished seventh (dim) chord on VII, specifically to its application as secondary dominant for II, III and IV.

22.1 The elementary position of a diminished seventh chord (e.g. B^{o}, VII^{7} in C mm or minor) consists of three superimposed minor thirds. It is composed of a minor 3rd (*b-d*), a diminished 5th (*b-f*) and a diminished 7th (*b-a♭*) on the root (*b*). It forms the upper structure of G7/–9.

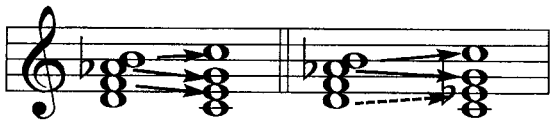
22.2 Outside the harmonic context, the ear is not able to identify the specific inversion of the diminished 7th chord, for within the system of the *equal temperament** a minor third (*f-a♭*) and an augmented second (*a♭-b*) sound just alike. Only the notation clearly shows the difference between such intervals. This gives the dim chord an apparent symmetrical form; a characteristic which, after enharmonic changes, is very useful in modulations and short tonal excursions to other keys. See also lesson 18.2, and lesson 35 on dim chord and octotonics.

Inversions of B^{o}



22.3 As result of this apparent symmetrical construction, it is customary in jazz (but a little sloppy) to name the diminished 7th chord after its bass tone instead of its root. We came across this custom in the sections 21.4 and 21.5, in which F^{o} turned out to be a B^{o} with *f* in the bass ($B^{o}/_{F}$).

22.4 When the dim chord of VII resolves to a major triad, it possesses three, and when it resolves to a minor triad two leading tones; in some cases three. It usually doesn't have a common tone with the subsequent chord to which it resolves. As a consequence, the voices always move. These characteristics, plus the apparent symmetrical construction, make the diminished 7th chord of VII a dynamic and versatile dominant chord.



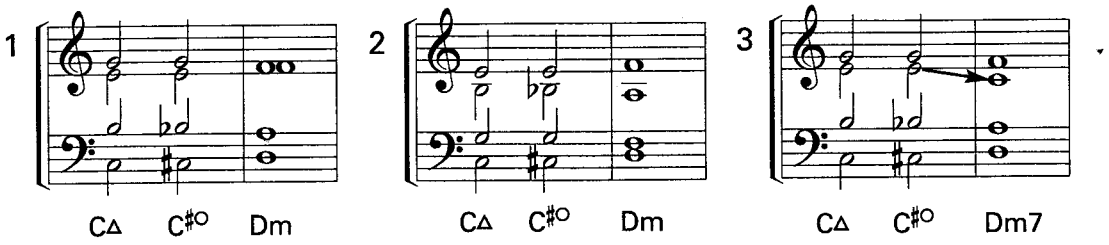
22.5 In spite of all its sublime characteristics, the diminished 7th chord also presents us with some problems. One should, for instance on the piano, be cautious with the doubling of tones, i.e. the dim chord sounds a great deal better without than with doubling of the bass tone in a higher register.

As the examples below will show, in a progression one often has to choose between the colouring of the chord and the correct voice leading. Especially where the dim chord is applied as secondary dominant for a m7 chord.

22.6 The examples 1-3 show the voice leading of the progression of the root position of secondary dominant $C^{\sharp o}$ to Dm(7), II in C major, also in root position. In examples 1 and 2 we see the triad of D minor. In jazz music, however, we

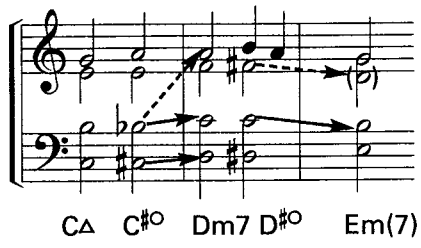
*The system of equal temperament devides the octave in 12 equal halve steps. In the 17th century it was brought into practical use by J.S. Bach's *Wohltemperiertes Klavier*.

would prefer to colour this chord with the 7 (example 3). To achieve this, one of its leading tones has to be sacrificed and has to fall to the 7 (*c*), or the 7 (*b*♭) of C♯° has to ascend, resulting in the omission of the 5 (*a*) of Dm7.

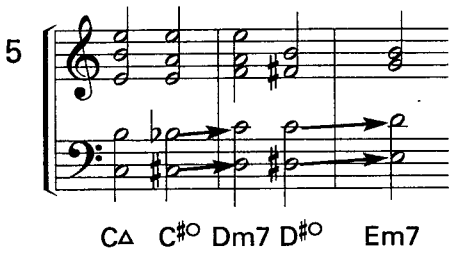


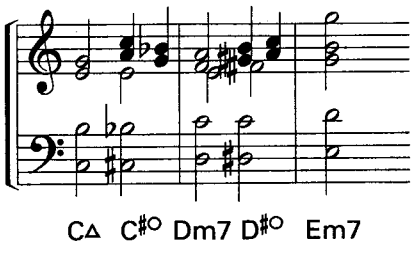
22.7 The 7 of C♯° in example 4 is ascending (*b*♭↗*c*) while the 7 of D♯° descends (*c*↘*b*), as is customary for the seven. The reason for the different movement of the sevenths is because the resolution of the 7 of C♯° (*b*♭) is taken over by the lead voice (*a*). The parallel 7th motion in this progression (*c*♯-*b*♭ ↗ *d*-*c*) is, however, not according to the rules of traditional harmony.

The 3 (*f*♯) of D♯° can also fall to the 7 (*d*) of Em7, like we see happen with the 3 of C♯° in example 3. In that case, we would miss the pretty ascending chromatic passing tones in the second voice (*e*↗*f*↗*f*♯↗*g*), although this motion is less obvious on the piano, as the lead (*g*) takes over the resolution of the *f*♯.*



In examples 5 and 6 the resolution of the 7 is in all cases taken over by another voice. Since the order of the voices of root-7th-3rd is the best sounding position, and because we rather hear a 7 in the subsequent m7 chord, we shouldn't worry too much about the ultimate voice leading, and be content with the fact, although not according to the traditional rules, that *the 7 of a diminished 7th chord ascends, when it is a 7th over the bass***.





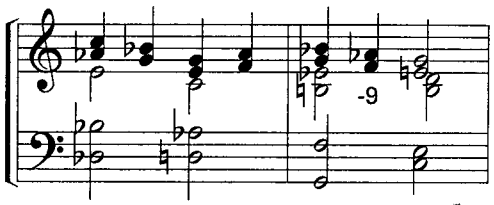
22.8 Some voices of the diminished 7th chord can be suspended. These suspensions can resolve internally or, in some cases, externally. Although it could be done, it's not common practice to indicate suspensions in the chord symbol. The 6 (*a* in C♯°) substitutes the 5 (example 5) or suspends it as in example 6.
If C♯° functions as secondary dominant for D⌀ (example 7), the matter is a little more complicated. In this progression C♯° actually is an enharmonically

* In arrangements for wind instruments or strings the parallel motion in tenth is clearly audible.

** In lesson 29 we will discover that the diminished 7th chord between II and III can resolve in both upward and downward directions.

changed inversion of E^{o}, of which the 7 ($d^{\flat}$) is in the bass. This dim chord is VII (dominant) in F minor (NB!). $D^{\varnothing}$ is Fm6 with 6 (d) in the bass. The suspension becomes $a^{\flat}$ (from C minor or mm) and in fact is a suspension for the third (g) of E^{o}*.

7



22.9 In $C^{\sharp o}$ (example 8) the c in the lead is an internally resolving suspension (c↘$b^{\flat}$) for the doubling of 7 ($b^{\flat}$). The $b^{\flat}$, in its turn, resolves descending to the 5 (a) of the subsequent chord, as is customary for a 7. It gives the lower 7 of $C^{\sharp o}$ a legitimate excuse to move ascending to the 7 of Dm7 ($b^{\flat}$↗c).

The c in $C^{\sharp o}$ could have been called the –8 (or $^{\flat}$8). However, in that case we would have formulated a new chord symbol; $C^{\sharp o}$/–8 is a useful, but unfortunately uncommon chord symbol in jazz music.

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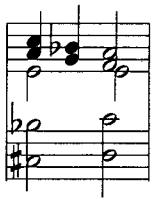
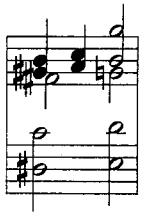


22.10 The $g^{\sharp}$ and b in $D^{\sharp o}$ in example 9 are ascending suspensions which internally resolve to the 5 (a) and the 7 (c) of $D^{\sharp o}$ respectively.

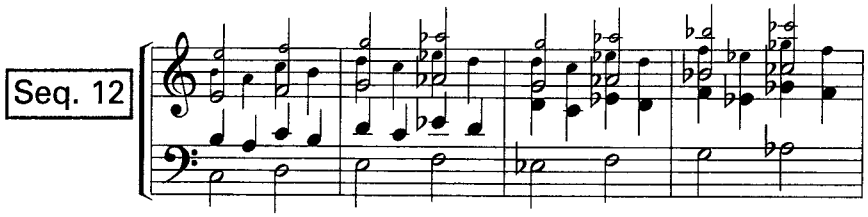
The $g^{\sharp}$ and b could have been called the 4 and 6 of the dim chord, but also $D^{\sharp o}$/4/6 is an unfamiliar notation.

9



Exercises:

✔ Again, the sequence below looks considerably more difficult on paper then it is in reality. First read the larger printed notes, and play them on the piano. The fingering for the right hand is always: the half notes (beginning with e) with ❺, and the quarter notes (b↘a) ❷ ❶. The fingering for the left hand is not important. The keys we meet in this sequence last for two bars; they are C and $E^{\flat}$. Continue the sequence in $G^{\flat}$ and A.



✔ Now play the small printed notes (octave doubling of the upper two larger ones), and the upper large one with the right hand. The half notes are always played in octaves with ❶ and ❺, and the quarter notes in between are played with ❸↘❷. The quarter notes in the left hand are played with ❶↘❷ and the bass always with ❺.

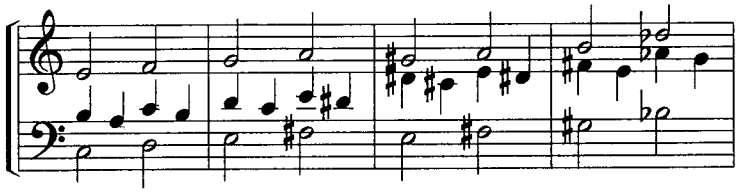
✔ Continue the sequence in this manner, over the entire keyboard.**

* See also chapter 5 on secondary dominants (2).

** Playing the exercises and sequences 'over the entire keyboard', you will notice that in the higher and specifically in the lower registers the sound of the chords becomes dubious. (Play on all the same, it's just an exercise! See also page 110.)

✔ Play and practice sequence 13 in the same way. Double the first and second voice an octave up and play them with the right hand (see Seq. 12). The keys in this sequence are: C-E-A♭.

Seq. 13



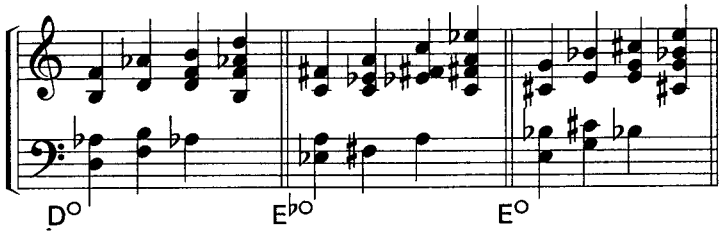
✔ Play all the examples of this lesson and try to memorise them.

✔ Transpose examples 4, 5 and 6 to as many keys as possible.
Remember, the diminished 7th chords are secondary dominants for II and III.

✔ Practice the example in 22.2 (B^{o}) on the entire keyboard. Do the same with C^{o} and $C\sharp^{o}$.

✔ Learn the inversions of the drop-two position of D^{o}, $E\flat^{o}$ and E^{o} (below) by heart, and practice them over the entire keyboard, until they run reasonably fluent.* If this proves to be a little too hard in the beginning, try first to master the close position.

Excercise



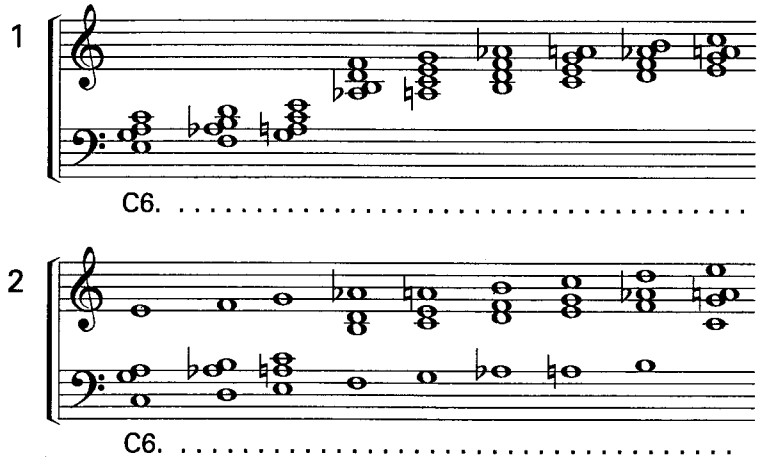
✔ Play the exercise above also in drop-three position.

Lesson 23 Thickened line and the 6th diminished scale

In this lesson we will become acquainted with the thickened line. In jazz music this is a traditional way of harmonizing a melody. Usually the chords in this way of harmonizing are in close or drop-two position and move in similar motion with the melody, which consists of chord tones and non-chord tones. The chord tones are harmonized with the chord symbols as written under the melody, the non-chord tones are usually harmonized (amongst others) with the dominant diminished chords of the symbols under the melody. When the tonic (I) is written under the melody, this will be a VII^{7} (dim), and when a chord other than the tonic is under the melody, a secondary VII^{7} (dim) for that chord. The scale, formed by the tones of the chord under the melody together with the tones of the diminished chord, is called the *6th diminished scale* (Dr. Barry Harris). This is a major or melodic minor scale, in which between the 5th and the 6th tone, a chromatic tone is inserted. This tone is the (diminished) 7 of the dim chord which alternates the chord under the melody.

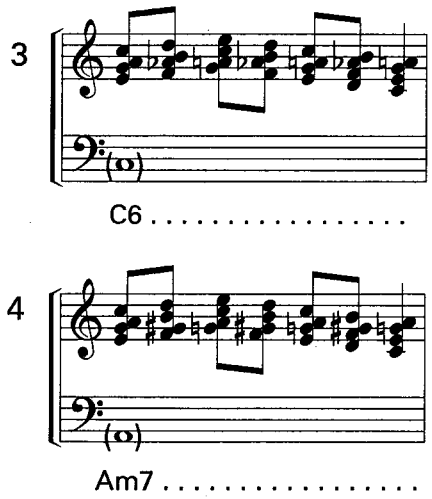
* The upper three tones of the chords are usually played with the right hand. The lead tone can also be doubled an octave lower, and played by the left hand. In volume 2 we will discover, that no standard method can be given to devide the chord tones over both hands. Find yourself what is easiest.

23.1 In the examples 1 and 2 we see the major 6th diminished scales harmonized with C6 (I) and B^{o} (VII^{7}) in close and drop-two position. C6 is under the melody and harmonizes the chord tones. B^{o} harmonizes the non-chord tones. In these examples, C6 is the tonic. As a result of the similar motion of the chords, the voice leading shows some deviations from the rules: with the ascending scale in the examples we see the descending leading tones in B^{o}, *f* and $a^{\flat}$, resolve upward instead of downward. This is typical with the thickened-line harmonization.



23.2 By changing the major 3rd (*e*) of C6 to a minor 3rd ($e^{\flat}$), the scale becomes a ***minor** 6th diminished scale*; C6 becomes Cm6.

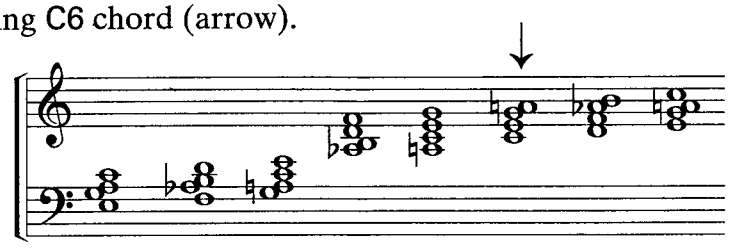
23.3 When the $a^{\flat}$ is enharmonically changed to $g^{\sharp}$, B^{o} alters to $G^{\sharp o}$ and becomes secondary dominant dim for VI (Am7). Since $a^{\flat}$ and $g^{\sharp}$ in practice sound alike, the difference between B^{o} and $G^{\sharp o}$ is not evident. Besides, C6 and Am7 are composed of the same tones; the tone in the bass is the only difference between the two chords. Since the bass is absent in the harmonies of the thickened line and only appears in the chord symbols written under the melody, one doesn't hear the difference between the harmonization with C6 or Am7. This is specifically true when the chords are in close position (examples 3 and 4). By analogy, harmonizations of the thickened line with F6 and Dm7 are identical.



23.4 For $A^{\varnothing}$ and for Cm6 the same 6th diminished scale is applied, as well as for $D^{\varnothing}$ and Fm6. $A^{\varnothing}$ and $D^{\varnothing}$ are being alternated by $G^{\sharp o}$ and $C^{\sharp o}$ respectively. These dim chords are similar – enharmonic inversions – with the secondary dominants [VII] B^{o} and E^{o} for Cm6 and Fm6 respectively (see 22.8). Here we notice the advantage of the symmetrical build of the diminished 7th chords.

23.5 In example 5 we see the normal C major scale in the lead, harmonized as the 6th dim scale up to the 5 (*g*); the $a^{\flat}$ is absent. From the *a* onwards, the 6th diminished scale continues. The scale can be used as long as it's appropriate for harmonizing the melody, if not, one has to find other solutions. In the example below (example 5) we therefore see under the *a* an inversion of the preceding C6 chord (arrow).

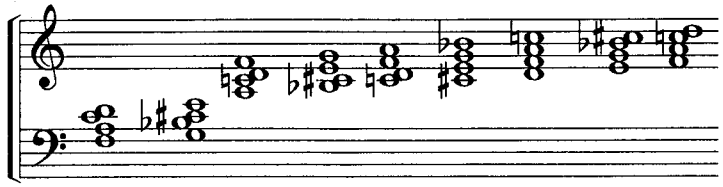
5



C6. . . . . .

23.6 Example 6 shows the major 6th dim scale of Dm7 or F6. Up to the *a*, the scale tones of C major are in the lead; the 6th dim scale can be applied straight forward. $C^{\sharp o}$ and it's inversion E^{o} are [VII] for Dm7 (II) and F (IV) respectively. From the tones following *a*, i.e. $b^{\flat}$↗c↗$c^{\sharp}$↗d, the $b^{\flat}$ and $c^{\sharp}$ are less common on Dm7 or F6 in a melody in C major.

6



Dm7. . . . . .

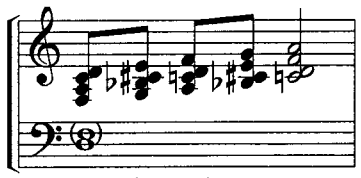
23.7 The chords we use for harmonizing a melody are determined by that melody in the first place, not by the 6th diminished scale. If the melody coincides with the 6th diminished scale, we can use the chords applicable to that part of the scale.

23.8 A melody on III (in C: Em7), can only partly be harmonized with $D^{\sharp o}$. For the time being it can best be dealt with as if it were a melody on I.

23.9 The non-chord tones of a thickened line on V^7 can for the time being be partly harmonized with the secondary dominant dim chord for V^7 (in C: $F^{\sharp o}$).*

23.10 It is mainly the duration of the non-chord tones which decides whether the secondary dominant is mentioned in the chord symbols under the melody. The eighth-note passages in the examples 7 and 8 are harmonized with the complete tone material of the 6th diminished scale of Dm7 or F6, being the only chord symbols written under the melody. The duration of the secondary VII ($C^{\sharp o}$ or E^{o}) is too short, and therefore impractical to be mentioned under the melody.

7



Dm7 (or F6)

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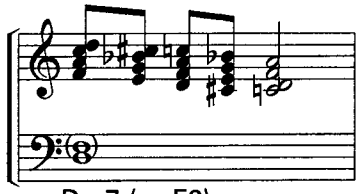
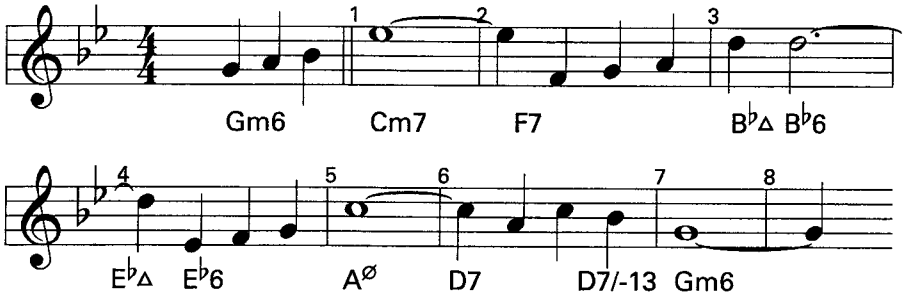


Dm7 (or F6)

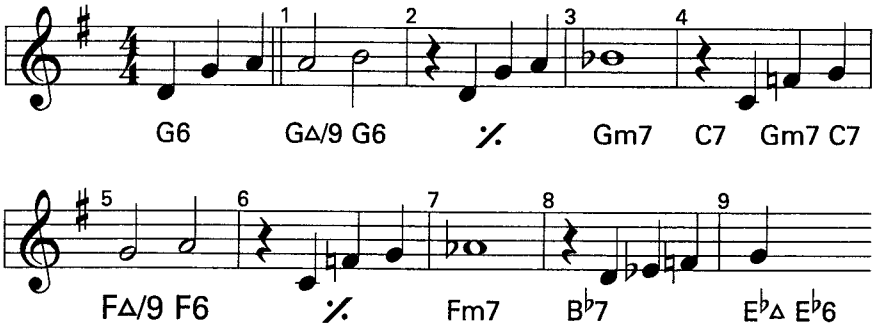
* In volume 2 we will come back to the subject of the thickened line and the 6th diminished scale.

Exercises:

- ✔ Play all the examples in this lesson.
- ✔ Play the inversions of the diminished chords B^{o}, C^{o} and $C^{\sharp o}$ in close position over the entire keyboard. Do the same with the drop-two and drop-three inversions.
- ✔ Learn the examples 1 and 2 by heart. Try eventually to master the harmonization of the 6th diminished scale of all major keys; in close as well as in drop-two position.
- ✔ Do the same with all minor scales on the m6 chords.
  It's important to master one key, before transposing to other keys. Begin with the major 6th dim. scale of C, F, $B^{\flat}$, $E^{\flat}$ and $A^{\flat}$; then A, D, G, C and F minor. Bit by bit, one can try playing the remaining scales.
- ✔ Play the following melody and chords. Apply the diminished chords (secondary VII) of the 6th diminished scale under the non-chord tones. Play with the left hand the melody and with the right hand the chords in close position with the melody in the lead.



- ✔ Play the melody plus the chords below. Again apply the diminished chords of the 6th diminished scale under the non-chord tones where possible.



If you are familiar with both the songs, try to finish them.

✔ Play the chords of the rather well known song below (Cole Porter) on the piano, and try to recognize it.

$G^{\varnothing}$ | C7–9 | Fm$^{\triangle}$ Fm7 | Fm6 | $D^{\varnothing}$ | G7–9/–13 | C$^{\triangle}$/9 C7/–9 | C6 :‖
Cm7 | F7/9 | $B^{\flat}{}^{\triangle}$/9 | $B^{\flat}$6 | $A^{\flat}$7/13 | 𝄎 | G7/13 | $D^{\varnothing}$ G7–9 ||
$G^{\varnothing}$ | C7–9 | Fm$^{\triangle}$ Fm7 | Fm6 | $D^{\varnothing}$ | G7–9/–13 | C$^{\triangle}$/9 C7/–9 | C6 ||

✔ Play the 6th diminished scale of C major descending, then ascending with the left hand alone over one octave.

✔ Try slowly to play at the same time the 6th diminished scale (major as well as minor) with the right hand ascending and the left hand descending. The scale moves in *contrary motion.*

✔ Play the 6th diminished scale of C major with chords (C6 and B^{O}) in close position. The starting position is: thumb (1) of the left hand on middle *c* (*c'*), the little finger (5) of the right hand on *c"* (one octave up), and the remaining tones of the chord in between with the right hand. Don't forget the half step between the *g* and the *a*!

✔ Play the minor 6th diminished scale in the same way.

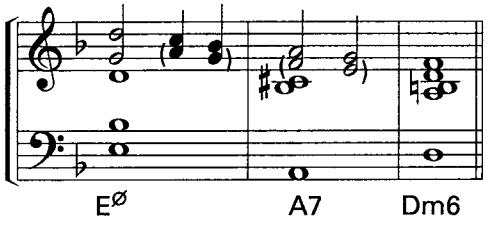
The following melody fragments repeat topics treated previously. Some fragments can be harmonized with chords in root position, others with a combination of thickened line and root-positioned chords. Also apply at some places chords in drop-two position.

Practice:

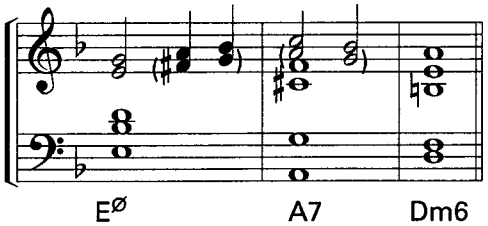
✔ Learn the two minor II-V-I models opposite by heart, and practice them in as many minor keys as possible. First without, and subsequently with the lowest note of the parallel thirds (between parenthesis) in the right hand.

✔ Play the two melodic fragments in practice 2a and 2b

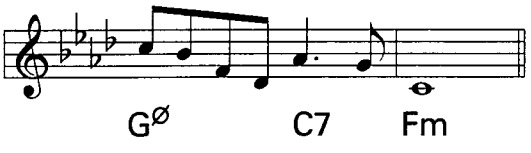
Model



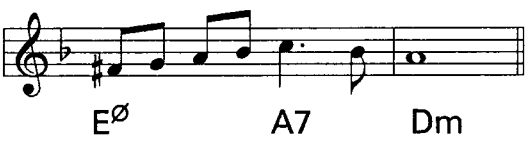
Model



Pr.2a



Pr.2b



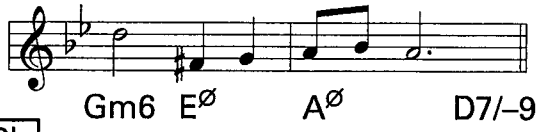
on the II-V-I progressions written under the melody, in five-part harmony, the melody in the lead included. Don't forget to spread the chord tones over both hands.

Remember, a minor chord is not the same as m7!

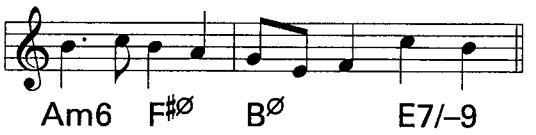
✔ The two melody lines in practice 3a and 3b are harmonized with a I-VI-II-V progression in melodic minor. The VIth degrees ($E^{\varnothing}$ and $F^{\sharp\varnothing}$) are derived from melodic minor. The D7 chord in practice 3a is on the third beat of the second bar.

The *g* and the *e* in practice 3b are two neighbouring tones of the 5 (*f*) of $B^{\varnothing}$. Therefore, the 5 can be omitted from the chord.

Pr.3a

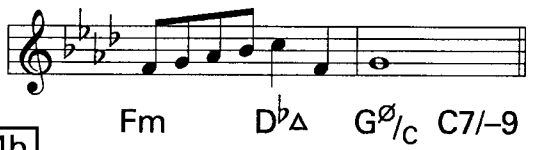


Pr.3b

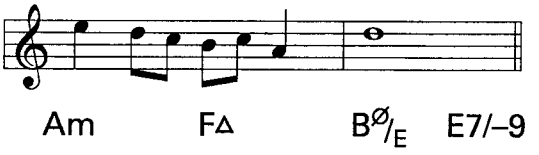


✔ The melodic lines in practice 4a and 4b are harmonized with a I-VI-II-V progression in harmonic minor. Consequently, the VIs are major 7th chords ($D^{\flat\Delta}$ and $F\Delta$). The root of V is anticipated in the bass of II: $G^{\varnothing}/_{C}$ and $B^{\varnothing}/_{E}$.

Pr.4a

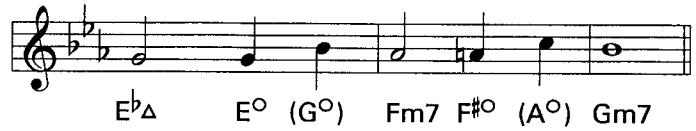


Pr.4b

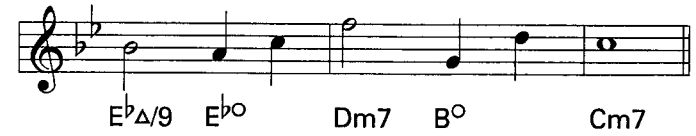


✔ Practice 5a can be harmonized in a four-part drop-two position. The inversions G° and A° of E° and $F^{\sharp\circ}$ can also be omitted. In that case we hear an ascending stepwise motion (German: *sekundengang*) in the bass (see also example 4 in 22.7). In practice 5b we see the progression IV→VII$^{4}_{3}$ mm→III in $B^{\flat}$ ($E^{\flat}$→$E^{\flat\circ}$→Dm7). It is best to double the 3 in the melody of both Dm7 and B° one octave down. For the voicing of B° with the 3rd in the lead, refer to $C^{\sharp\circ}$ in example 5 of section 22.7.

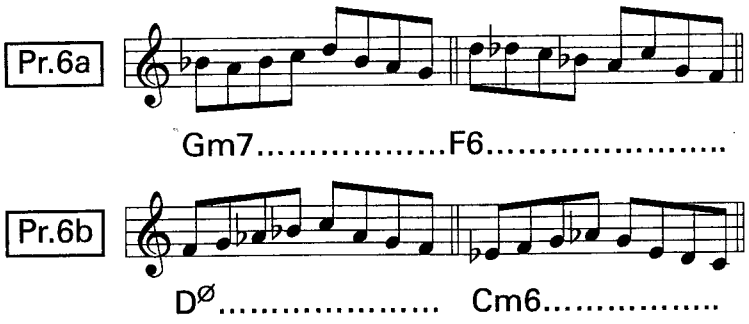
Pr.5a



Pr.5b



✔ Harmonize following eighth-note melody lines with the 6th diminished scale; non-chord tones with the appropriate diminished 7th chords (secondary VII). Transpose the lines to as many keys as possible.



✔ After the preceding lessons have been studied and understood, a substantial number of standards can be added to your repertoire.

Make a choice from:

PENNIES FROM HEAVEN
I CAN'T GIVE YOU ANYTHING BUT LOVE
OUT OF NOWHERE
WHAT'S NEW
YARDBIRD SUITE
IT COULD HAPPEN TO YOU
SOFTLY AS IN A MORNING SUNRISE
I THOUGHT ABOUT YOU
ALL THE THINGS YOU ARE
OLD FOLKS
STELLA BY STARLIGHT
BODY AND SOUL
THE TOUCH OF YOUR LIPS
ALONE TOGETHER
ALL GOD'S CHILDREN GOT RHYTHM
THE BEST THING FOR YOU
BLUE BOSSA
THE NEARNESS OF YOU
IT MIGHT AS WELL BE SPRING
HAVE YOU MET MISS JONES
and likely a lot more. Try!

✔ Identify the minor-major enclaves in the above listed songs.

CHAPTER 5 SECONDARY DOMINANTS (2)

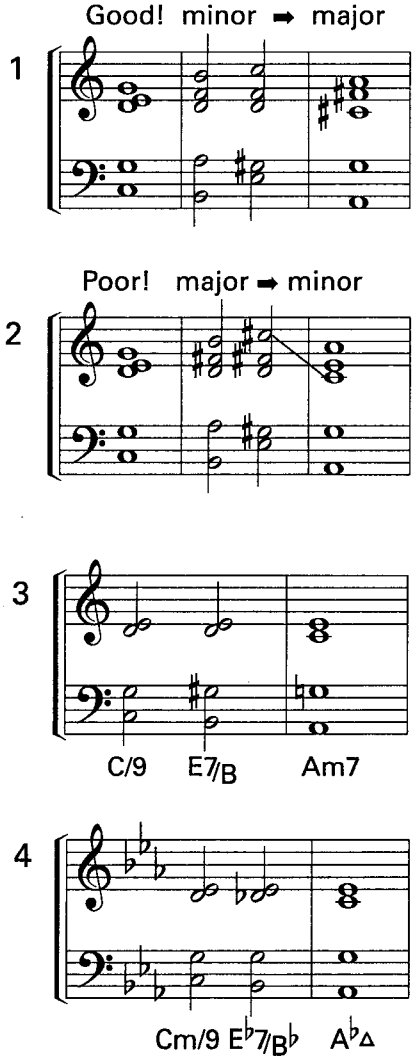
In lesson 18 we were introduced to the concepts of the secondary dominant and the adjacent (secondary) tonic. We saw examples of secondary dominants for the prime degrees IV and V. Furthermore, we learned that the extensions of the dominant seventh chords as secondary dominant [V7]* for II7, III7 and VI7 originate from the key and mode of the adjacent tonic, in C major: A7→Dm7, B7→Em7, E7→Am7. In lesson 22.6 we were introduced to the dominant function of the diminished seventh chord as secondary dominant for II and III. In lesson 23 we learned about the sixth diminished scale, in which the diminished seventh chord, in its role as embellishing *passing* and *neighbouring chord*, appeared as dominant applied for I, and as secondary dominant for II, IV and VI. In this chapter we will broaden our understanding of the application of secondary dominants. We will also meet the *tritone-related dominant seventh chord* and introduce a few more *embellishing chords.*

Lesson 24 V7/–5 and the tritone-related dominant 7th chord

24.1 As the scale tones which mainly distinguish the minor from the major scale – i.e. the 3rd and 6th tone – are not present in a non-extended dominant 7th chord on V, it is impossible to establish its mode (major or minor). 'Bare' V7ths belonging to either major or minor are identical.

24.2 In lesson 18.3 we learned that the extensions of the secondary V7 are derived from the key and the mode of the adjacent tonic [I]. A secondary V7 or secondary II-V progression* moves smoothly to major, even if extended by tones from minor. In example 1, C→[II-V]→A7, the extensions of E7 are derived from A minor. The opposite is not true: it is difficult to move to minor with a V7 of which the extensions (9 and 13) are derived from major. In example 2, C→[II-V]→Am7, the extensions of E7 are derived from A major.

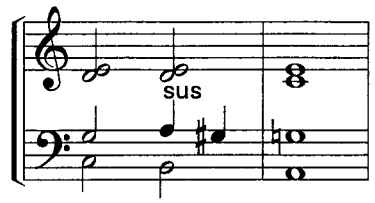
24.3 In examples 3 and 4 we see the bare [V7] for VI. We notice that the 5 instead of the root of the chord is in the bass. A descending *passing tone* appears between the roots of I and VI. This is a stepwise moving tone which usually appears on a metrically unaccented beat or part of a beat.



* Square brackets [ ] used with chords or chord progressions in roman scale-degree notation indicate a secondary function.

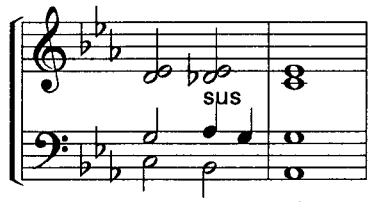
24.4 In examples 5 and 6 the 3 of E7 and E♭7 is suspended by *a* and *a*♭ respectively.
We see Bm7/11 = E7sus/B and B♭m7/11 = E♭7sus/B♭. In both the m7 chords the 5 is omitted. Without the 5 in the suspending chords, we will not notice the difference between the minor 7th chord (II in major) and the half-diminished chord (II in minor). Consequently, the [II-V] in these examples can resolve to major as well as to minor.

5



C9 E7/B Am7

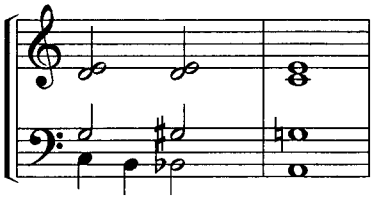
6



Cm/9 E♭7/B♭ A♭Δ

24.5 The 5 of the secondary dominants [V7] in examples 7 and 8 is lowered. In both E7 and E♭7 this flat five (–5) is in the bass. These chords also can resolve to both major and minor. However, we notice another phenomenon: If the 3 (*g*♯) of E7 is enharmonically changed to *a*♭, E7 changes into B♭7/+11, and if the 7 (*d*♭) of E♭7 changes to *c*♯, and the –5 (*b*♭♭) to *a*, E♭7 changes into A7/+11; both dominant 7th chords without (perfect) 5. See also lessons 25.7, 26 and 37.

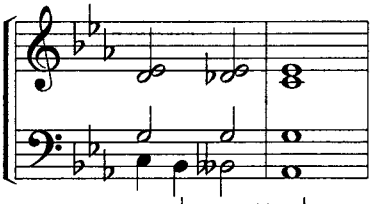
7



C9 E7/-5/B♭ Am7

24.6 The alterations and enharmonic changes in E7 and E♭7 convert these chords into so-called *tritone-related dominant 7th chords*: B♭7 with E7 and A7 with E♭7. The chords are related by their common tritone: *a*♭–*d* = *d*–*g*♯ and *g*–*c*♯ = *d*♭–*g*, and are also a tritone apart.
Although a simplification, this concept is commonly used in jazz harmony.

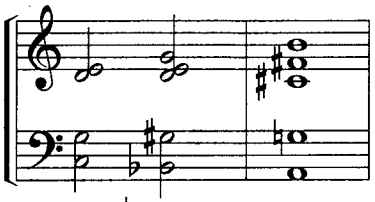
8



Cm/9 E♭7/-5/B♭♭ A♭Δ

24.7 Thus, the tritone-related (TR) dominant 7th chord can resolve to major as well as to minor. We will see in the next lesson that their main application is in a dominant chain, i.e. as a secondary dominant for a (secondary) dominant, etc. In example 9 B♭7/+11/13 resolves as secondary dominant to V7 in D major: A7/9/13.

9



C9 B♭7/+11/13 A7/9/13

Exercises:

✔ Transpose all examples of this lesson, except examples 1 and 2, to chromatically ascending keys, i.e. C♯, D, E♭, E, etc.

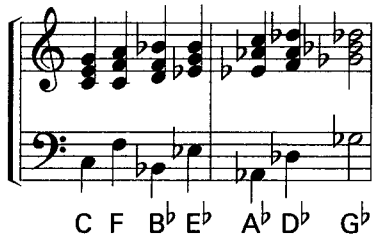
✔ Learn them by heart.

Lesson 25 The dominant chain and another TR dominant 7th chord

When a dominant chord resolves to another dominant chord, a series of descending, cadential dominants is formed. This progression is called a *dominant chain* (see also 24.8). The chords in such a chain can take on many different forms. In this lesson we shall meet some of them. The first six examples show the chords in root position.

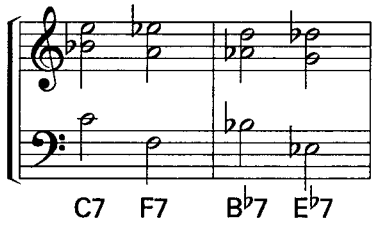
25.1 Because the 7 in these chords is absent, we will not very often encounter in jazz music the dominant chain of triads shown in example 1. Only the cadential bass that falls by a 5th or rises by a 4th, and the leading tone cause harmonic motion in this progression.

1



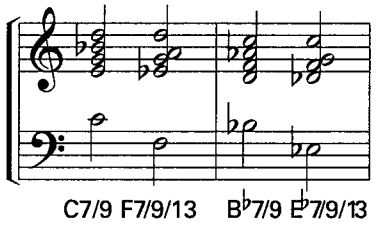
25.2 Example 2 shows a chain of dominant 7th chords in which the 5 is omitted. We see the tritone *b♭–e* of C7 turn into the diminished 5th *a–e♭* of F7, etc.*

2



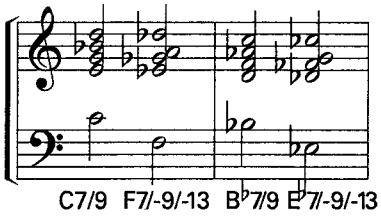
25.3 The dominant 7th chords in example 3 are alternately extended with the 9 and the 13. In this chain the diminished 5th *e–b♭* of C7/9 turns into the tritone *e♭–a* of F7/9/13, etc.

3



25.4 In example 4 the chords are again extended with the 9 and the 13. In the second and fourth chord these tones originate from minor. The upper structure of the chords in this progression descends chromatically, maintaining the same form enharmonically; the 5 descends to the –9 and the 9 to the –13.

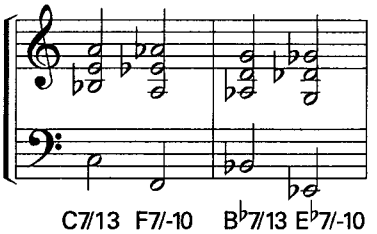
4



25.5 We see a similar repetitive pattern in example 5:

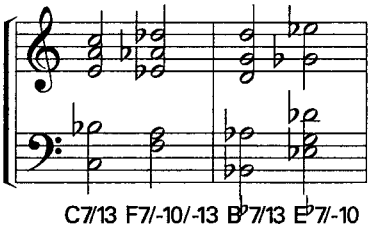
13 ↘ –10 ↘ 13
3 ↘ 7 ↘ 3
7 ↘ 3 ↘ 7

5



25.6 The progression in example 6 is identical with the previous one, only with the difference that the lead moves independently from the other voices. Chromatically descending middle voices, together with falling fifths (rising fourths) in the bass, and with the lead moving independently, is a very common voice leading for a dominant chain.

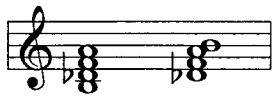
6



* Augmented 4th (tritone) and diminished 5th are complementary intervals, and divide the octave in two equal parts.

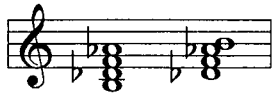
25.7 Example 7 shows the altered VII^7 in C major and example 8 the one in C minor, both with lowered 3 ($d^\flat$). The chords in both examples are in close root position as well as in first inversion, the latter with $d^\flat$ at the bottom. When in the minor inversion in example 8, the root b of VII is enharmonically changed to $c^\flat$, the augmented 6th $d^\flat$–b changes into a minor 7th $d^\flat$–$c^\flat$ forming a root-positioned D$^\flat$7 chord. See (8) in 33.6 and lesson 37.

7



Altered VIIth degree in C major

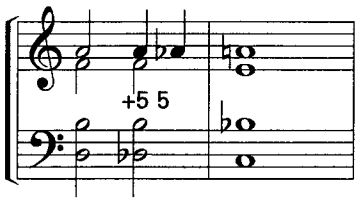
8



Altered VIIth degree in C minor

25.8 In the first bar of example 9 we see VII$^6_5$ (3 in the bass) in C major (B$^{\varnothing}$/D). By altering d into $d^\flat$ and a into $a^\flat$, the first chord B$^{\varnothing}$/D changes into D$^\flat$7/+5 and D$^\flat$7 respectively. Both are called tritone-related (TR) dominant 7th chords of G7, originating from VII; the first from VII in C major (+5), the second from VII in C minor or C minor-major ($a \searrow a^\flat$).

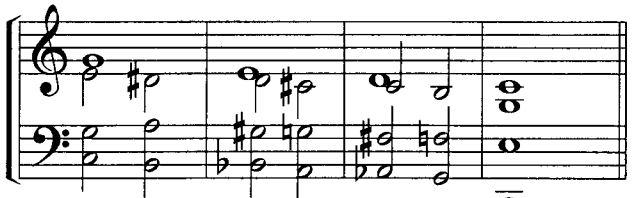
9



B$^{\varnothing}$/D D$^\flat$7 C7/13

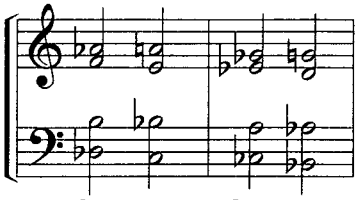
25.9 The traditional point of view to name a TR dominant after its origin, the VIIth degree, would become too complicated to capture in a customary chord symbol used in jazz, specifically when the chords are extended. Therefore, the concept of the tritone relationship is a useful and practical simplification.

10



Trad.: C B7/13 E7/-5/B$^\flat$ A7 D7/-5/A$^\flat$ G7
TR : B$^\flat$7 A$^\flat$7

11

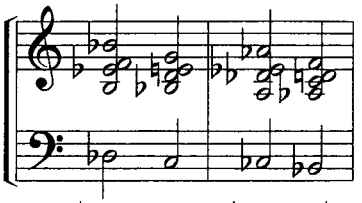


Trad.: B$^\circ$/-3/D$^\flat$ A$^\circ$/-3/C$^\flat$
TR : D$^\flat$7 C7/13 B7 B$^\flat$7/13

The TR dominants in example 10 originate from the altered [V^7]. In example 11 they originate from the altered [VII^7]*. The chord extensions in D$^\flat$7 and C$^\flat$7 in example 12 make it not practical to relate to traditional notation.

At some spots in the examples the notation of accidentals is inadequate, e.g. the 7 of the TR dominants is written as an augmented 6th. For example, B$^\flat$7 in example 10 has $b^\flat$–$g^\sharp$ instead of $b^\flat$–$a^\flat$; $b^\flat$ originally being the –5 of E7 (V^7). In D$^\flat$7 in example 11 has an augmented 6th $d^\flat$–b instead of a minor seventh $d^\flat$–$c^\flat$; the b being the root of the altered VII in C.

12



TV : D$^\flat$7/9/13 C7/9 C$^\flat$7/9/13 B$^\flat$7/9
Trad.: Not practical!

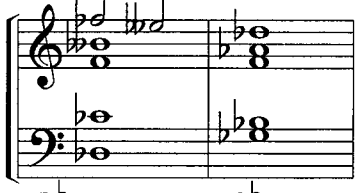
* Often it is problematic to establish whether an extended TR dominant originates from an altered V^7 or from an altered VII^7.

25.10 There is another item from traditional harmony which should be taken into account when dealing with TR dominants. In a conclusion to I it is less appropriate to extend the TR dominant with tones belonging to the minor key in which the chord is the actual V^7. Thus, $D^{\flat}7$, extended with tones from $G^{\flat}$ minor, is too remote from C major or minor to be harmonically acceptable. The 'tonal ear' will object.

25.11 The examples 13 and 14 show a $D^{\flat}7$ chord. In example 13 as V^7 in $G^{\flat}$ in which the extensions originate from $G^{\flat}$ minor: –10 ($f^{\flat}$), –9 ($e^{\flat\flat}$) and –13 ($b^{\flat\flat}$). The progression is entirely acceptable. In example 14 we see $D^{\flat}7$ as TR dominant in C major, with the same extensions from $G^{\flat}$ minor, in this example enharmonically changed. The ear probably has objections.

no objection!

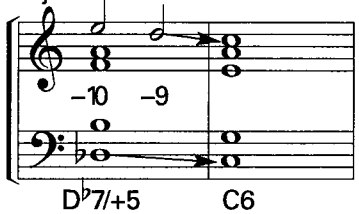
13



$D^{\flat}7$/-10/-13/-9 $G^{\flat}\Delta$/9

objection!

14



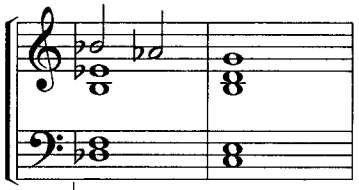
$D^{\flat}7$/+5 C6

25.12 The extensions of the dominant in example 15 ($D^{\flat}$7/13/9) originate from C minor. The ear has no reason to object! The 9 in $D^{\flat}7$ is the $e^{\flat}$ from C minor.

The extensions of the TR dominant, especially the 9, preferably originate from the minor mode of the key in which the chord functions as TR dominant and not from the minor mode of the key in which the same chord functions as V^7.

no objection!

15

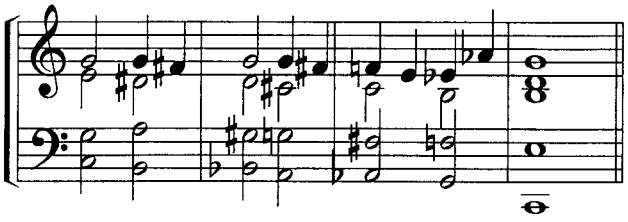


$D^{\flat}7$/13/9 CΔ/9

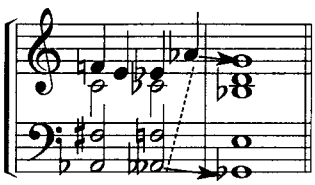
25.13 As a key can hardly be established, the statement made above is less relevant for dominants in a chain, however, we still have to be cautious with –9 ↘ –9 in dominant 7th chords descending with a half step. If the closure in example 16a is compared with the one in 16b, the difference is obvious. The progression G7/–9→CΔ in example 16a is acceptable in every way, as with the resolution of G7/–9 (enharmonized) to $G^{\flat}$7/–9 (also enharmonized) in 16b, the ear probably objects, due to the altered bass ($a^{\flat\flat}$) in conjunction with the non-altered lead ($a^{\flat}$), i.e. the combination of the minor and diminished 3 of the altered VII. See for further discussion on this topic section 27.21.

The TR secondary dominant preferably is extended by a 9 instead of a –9.

16a

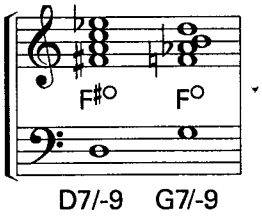


16b



25.14 Every chord in which a tritone occurs can function as a dominant or as a TR dominant. Also chromatically descending diminished 7th chords in a thickened line have a dominant relation and can form a chain. Because of the fact that the bass is absent, their dominant relation is obscured. Compare the similarity between the progression F#°→ F° and D7/–9 → G7/–9 in example 17, the latter seen without root. The descending chain of diminished 7th chords can be concluded on almost any major or minor chord. We will come to the many different resolutions of the dim chord in lesson 35.

17



Exercises:

- ✔ Play all the examples of the lesson on the piano and pay close attention to the accompanying text.
- ✔ Play the dominant chains in the examples 2-5 and 11-13 over the entire keyboard until some fluency is achieved.
- ✔ Come up with a lead, as demonstrated in example 16, for the following progressions:

  FΔ B♭7 | E♭7 A♭7 | D♭7 C7 | FΔ ||
  GΔ G♭7 | F7 E7 | E♭7 D7 | GΔ ||

- ✔ Play an arbitrary diminished chord in close and mixed position (root-7-3-5), first chromatically descending over the entire keyboard, then the same chord ascending.
- ✔ Resolve the chain of diminished 7th chords at some point on a major or minor chord. Don't forget the correct voice leading!

Lesson 26 Tritone-related (TR) secondary dominants

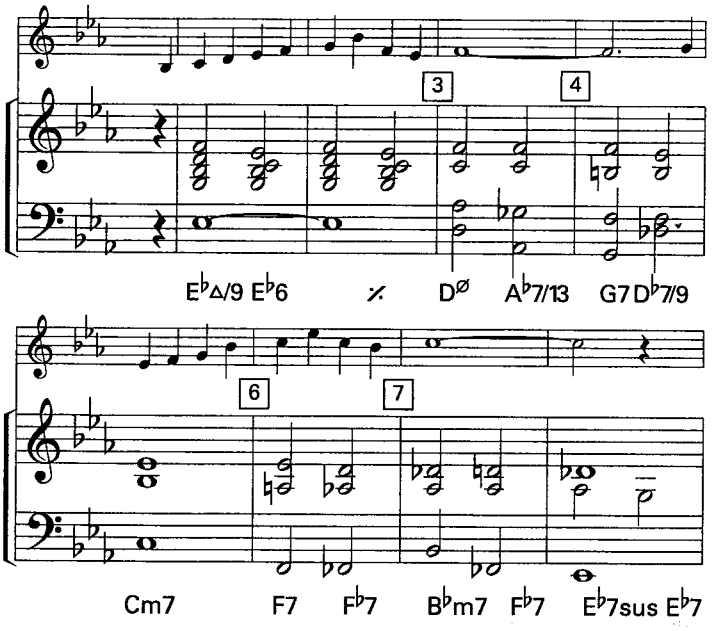
The main distinction between the resolutions of the secondary V7 and the TR secondary dominant is in the bass: the falling 5th of the secondary V7 exchanges for a descending leading tone in the bass of the TR secondary dominant, i.e. the strong cadential progression exchanges for a stepwise bass progression. In a definite ending, however, one prefers the cadential 5th instead of the weaker half step.

26.1 Example 1 shows a piano part and melody for the first eight bars of a well-known song. TR secondary dominants with extensions occur in measures 3-4 and in the short dominant chain in the measures 6-8.

Bar 3-4: A♭7→G7; TR secondary dominant for V7 in C minor.
Bar 4-5: D♭7→Cm7; TR secondary dominant for VI in E♭.
Bar 6-8: F7→F♭7→E♭7sus; dominant chain.

The resolution of dominants, V^7, and secondary dominants, [V^7], is frequently interrupted by their TR substitutes.
In bars 3-4 we see for instance:
$A^{\flat}7 \rightarrow G7 \rightarrow D^{\flat}7 \rightarrow Cm7$
Depending on the melody, also the opposite is possible: the resolution of the TR dominant is interrupted by V^7.

1

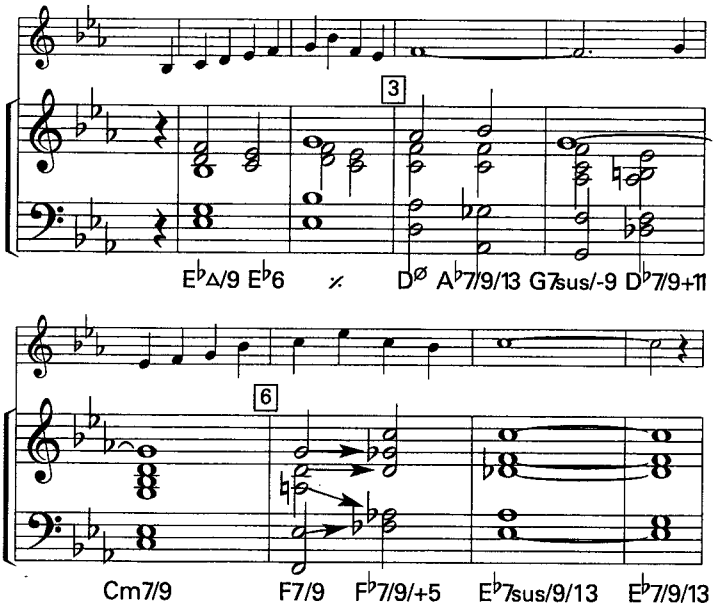


A suspending II^7 can also interrupt a TR (secondary) dominant, as we can see in bars 6 and 7:
$F^{\flat}7 \rightarrow B^{\flat}m7 \rightarrow F^{\flat}7$ the $B^{\flat}m7$ chord being II^7 in $A^{\flat}$.

26.2 Example 2 shows a more tricky version for the accompaniment of the same melody fragment.

At some spots liberties are taken with the voice leading. In the progression of the TR secondary dominant $A^{\flat}7/9/13 \rightarrow G7/sus$ in bar 3, the 5-part harmony changes into 6-part (the 7 of G7 is doubled).

2

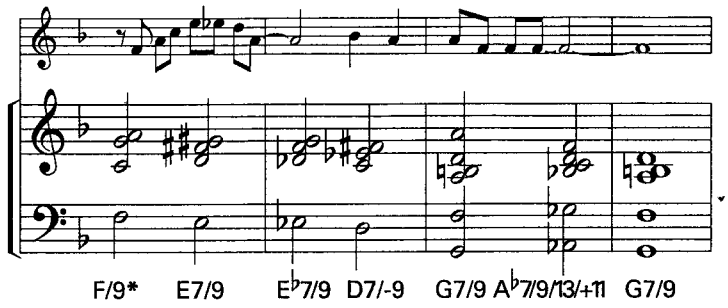


The extensions of $A^{\flat}7$ and $D^{\flat}7$ originate from G minor and C minor respectively.

If we had stuck to the rules, the progression in bar 6 ($F7/9/13 \rightarrow F^{\flat}7/9/+5$) would have been unplayable on the piano with the given lead. Besides, the last three bars would have come to a register too low for the piano, hadn't the voices in $F7 \rightarrow F^{\flat}7$ taken over their respective voice leading as shown in the example. We will frequently encounter this practice. The piano is not a string orchestra or choir, for which the voice leading is imperative. On the piano one can, and sometimes has to take more liberties.

26.3 The first bar of the song in example 3 shows a descending TR secondary dominant E7/9, while in the same bar in example 4 we see B♭7/13. The harmonic function of the chords is identical. The second bar of example 4 shows the pretty descending movement 13↘–13↘9↘–9↘5 in the middle voices of the chain of secondary dominants A7→D7→G7. The 3 of D7 can also be suspended by sustaining the 7 (*g*) of A7 for one more beat, forming D7sus/9 on the third beat and D7/–9 on the fourth.

3



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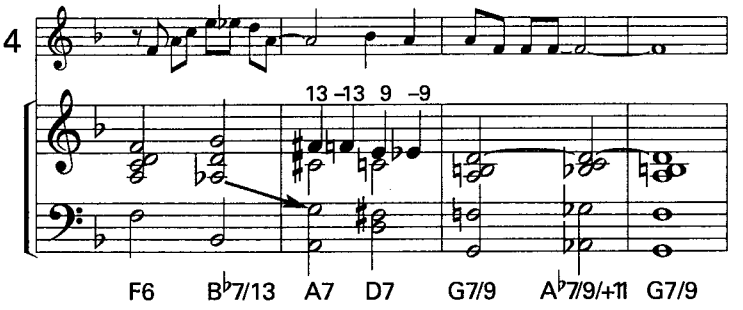
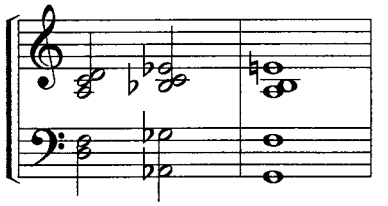


26.4 One of the most frequently used TR secondary dominant is the one for V7. In the examples 5-11 we see a II-V progression in C (major and minor) which has been interrupted by the TR *double dominant*. Double dominant is a special name given to the secondary dominant for the dominant – in these examples for V7 (G7). In such a progression II7 (Dm7) can also be substituted by the double dominant (D7) and be followed by its TR dominant (A♭7). The choice mainly depends on the melody over the harmonies.

5



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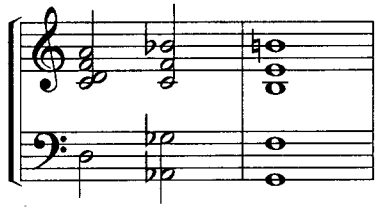

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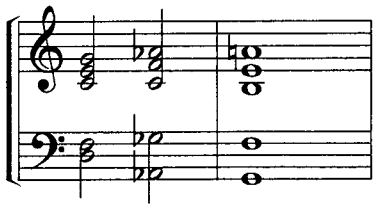
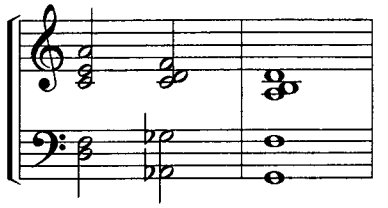


26.5 Observe that some liberties have been taken with the voice leading in example 8. These are the consequences of the 'jumpy' lead voice.

8

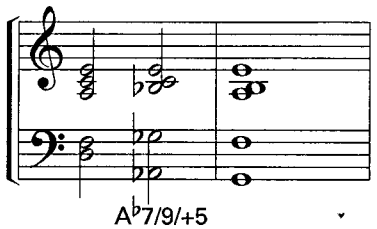


26.6 Example 9 shows an A♭7 chord of which the extensions originate from C minor-major. The +5 (*e*) is in the lead. This tone would have been less appropriate, had it been in a middle voice. The chord originates from an enharmonically changed

* The 7 in this chord is omitted and therefore not mentioned in the chord symbol. Some writers automatically implicate the presence of the 7 when the 9 is indicated in the symbol.

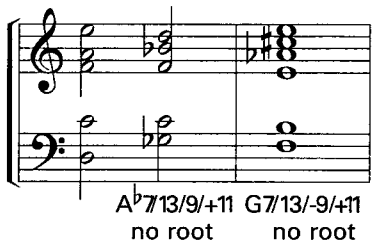
raised IV§ from C minor-major which will be discussed in lesson 36. If we forget the $b^\flat$ for the moment and make the $g^\flat$ an $f^\sharp$, the analysis of the chord becomes somewhat more obvious. Then we discover F♯ø, raised IV subdominant, with the lowered 3, the $a^\flat$ from C mm in the bass.* The $b^\flat$ is a colouring tone from C mm.

9



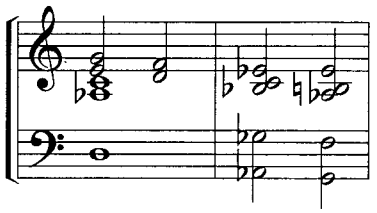
26.7 In example 10 the root of A♭7 as well as of G7 is silent. This makes playing these chords more practical on the keyboard.

10



26.8 The 9 (*e*) of Dø/9/11 in the first bar, and the $e^\flat$ in the second bar make the progression in example 11 a mixture of C minor-major and C minor.

11



If Dø is substituted by Dm7, we hear major in the first bar and minor in the second. If $e^\flat$ in the second bar is substituted by *e*, the whole progression is minor-major, and if subsequently also the $a^\flat$ in G7 is substituted by *a*, only A♭7/+5 originates from minor-major.

In example 11, A♭7 comes under the $e^\flat$ on the first beat of the second measure, but it could also have been, like in example 8, under the *f* on the third beat of the first measure, forming A♭7/13/+11. In that case, G7/–9/–13 comes under the $e^\flat$ on the first instead of on the third beat of the second measure.

Try these variations on the piano!

26.9 In the I-VI-II-V and III-VI-II-V progressions, which we learned in lessons 15 and 16, the diatonic chords on the scale degrees can be substituted by secondary dominants, *provided the melody permits this.* These secondary dominants in their turn can be replaced by TR secondary dominants. This implies that if in the aforementioned progression, C (the tonic I) is substituted by Em7 (III), and Em7 in its turn by E7, its tritone-related dominant B♭7 can substitute for the tonic C. We end up with the following possibilities:

C→Am7→Dm7→G7 becomes
Em7→Am7→Dm7→G7 or
E7→A7→A♭7→G7 or
B♭7→E♭7→A♭7→D♭7

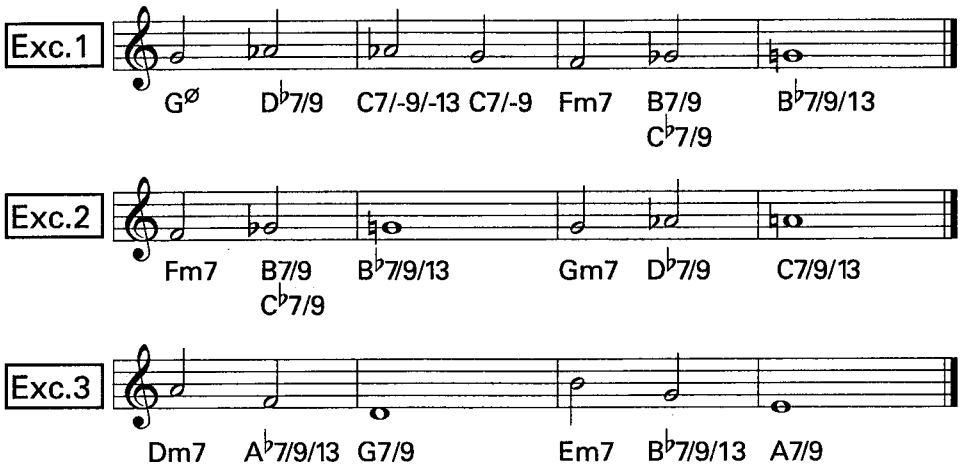
or any other combination of these chords. For example:

B♭7→A7→Dm7→D♭7 or
E7→E♭7→D7→G7 or
Em7→Am7→D7→D♭7, etc.

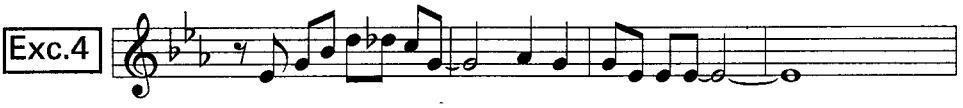
* Fø/-3 can of course also be seen as VII (dominant) with flat 3 in G. Compare example 7 in lesson 25.7.

Exercises:

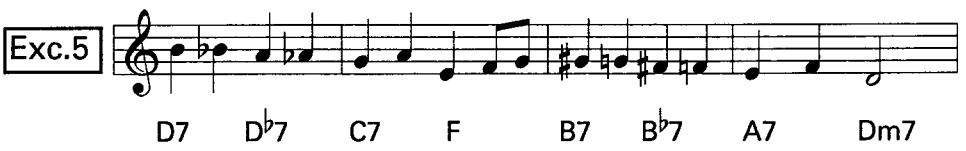
- ✔ Play the piano part of the examples 1-4 and sing the melody with it. Compare the chords, as written out in notes, with the chord symbols underneath.
- ✔ Play the examples 5-11 on the piano.
- ✔ Transpose the examples 5-7 a whole step, both up and down.
- ✔ Play the exercises below on the piano.



- ✔ Make an ascending sequence of the exercises 2 and 3 and practice these over the entire keyboard.
- ✔ Start exercise 2 on Dm7, and exercise 3 on Fm7. Also make a sequence of these and play them over the entire keyboard.
- ✔ Find and play the appropriate chords under the melody of exercise 4. This is the transposed version of melody in the examples 3 and 4.

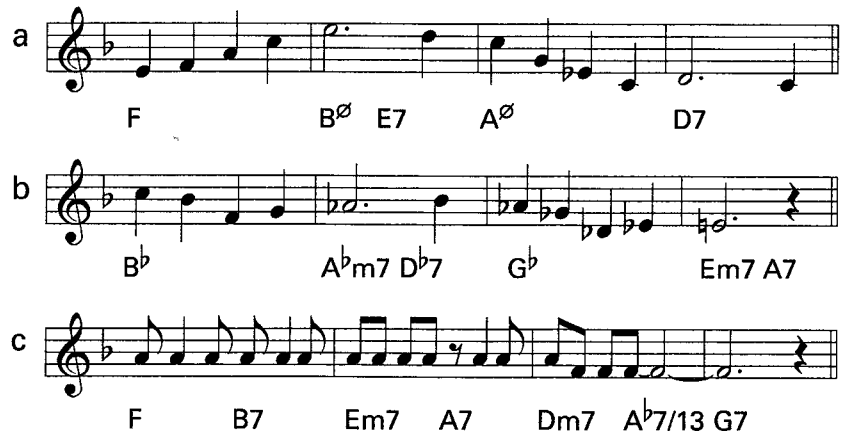


- ✔ Play the first four measures of the well-known ballad below. Colour the chords with appropriate extensions. Listen carefully!



✔ Exercise 6 shows four measures of the melody of three well-known standards. Try to play them in as many keys as possible. Add some extensions to colour the secondary dominants.

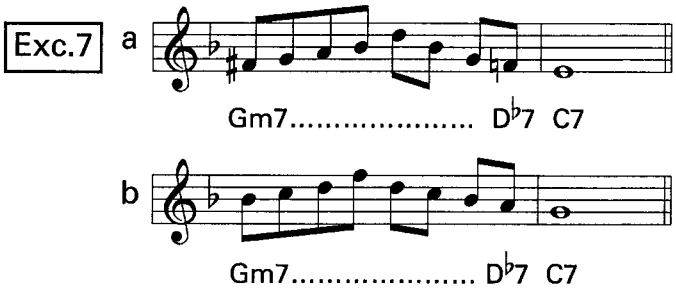
Exc.6



✔ Play the TR secondary dominants instead of the given dominants under the melody of the fragments a and c in exercise 5.

✔ Harmonize the melody fragments in exercise 7 with the 6th diminished scale (the non-chord tones with $F^{\sharp o}$ or its inversions). Start on the first beat in close position with the melody doubled an octave below. Change on the second beat to a drop-two position, with the melody doubled in the second-lowest voice. Play all of fragment 7b in drop two, also with the melody doubled to the second-lowest voice. Play $D^{\flat}7$ as well as C7 (both with a colouring extension) in a 5-part root position.

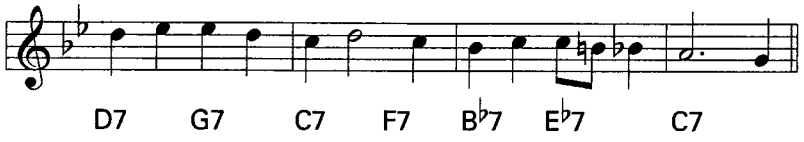
Exc.7



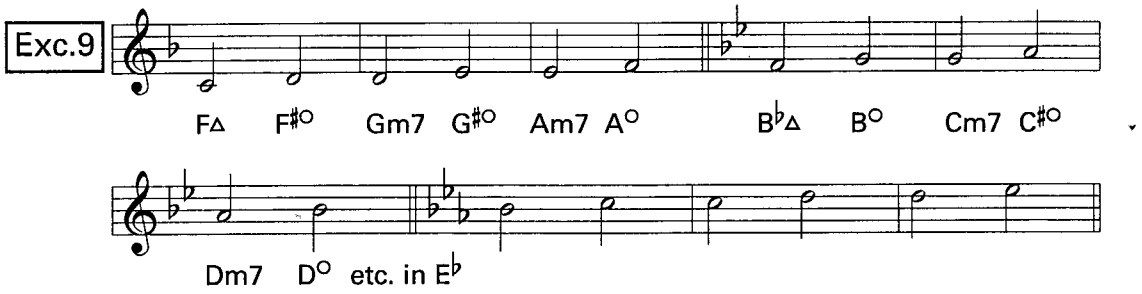
✔ Transpose both melody fragments to as many keys as possible.

✔ Play the same fragments, but with $G^{\varnothing}$ instead of Gm7 (i.e. minor-major: *d* becomes $d^{\flat}$). The non-chord tones are harmonized likewise with $F^{\sharp o}$. Also transpose these to different keys.

✔ Play following dominant chain and melody. Move the inner voices with 13 ↘ –13 ↘ 9 ↘ –9. Substitute D7 and C7 with their TR dominants. Transpose the melody fragment to other keys. Put the chords in a 5-part root position.



✔ Play exercise 9 with the chords and finish it in E♭.



✔ Continue exercise 9 as sequence through all keys. Play the lead one or more octaves down, in case it becomes too high. See the examples in lesson 22.7.

Don't forget that the melody tone of the diminished seventh cords in exercise 9 is the unresolved suspension for the 5 of the chord. Therefore, it is preferable to omit the 5 in these dim chords. In this exercise the suspension of the diminished seventh resolves externally and becomes the 5 of the following chord.

✔ Now that we have learned more substitute chords, our repertoire can be expanded as well. Also we might be able to use less primitive harmonies under the melodies already dealt with.

Choose from the list of standards below:

NICE WORK IF YOU CAN GET IT
I THOUGHT ABOUT YOU (2)
THERE WILL NEVER BE ANOTHER YOU (2)
FALLING IN LOVE WITH LOVE
INDIANA
WHAT IS THIS THING CALLED LOVE
IF YOU COULD SEE ME NOW
I CAN'T GET STARTED
THESE FOOLISH THINGS
MY ROMANCE
THE DAYS OF WINE AND ROSES
YOU AND THE NIGHT AND THE MUSIC
DOXY
SWEET GEORGIA BROWN
ALL OF ME
HAVE YOU MET Miss JONES (2)
I LOVE YOU
GEE, BABY AIN'T I GOOD TO YOU
THERE IS NO GREATER LOVE

Titles marked with the figure (2) have already been mentioned.

CHAPTER 6 EMBELLISHING CHORDS

Embellishing tones (passing, neighbouring, suspending tones, etc.) create melodic activity. *Embellishing chords* (suspending, passing, alternating, approach and leading chords) create or delay harmonic motion. These chords usually harmonize embellishing tones, which can be found in the lead, in the inner voices or in the bass. An embellishing tone usually is a dissonant in the main chord.
Embellishing chords do not alter, but mainly decorate the essence of the harmonic structure. Their harmonic function, therefore, usually is subordinate to the function of the main chords in the progression.

Lesson 27 Dissonants, suspending tones and suspending chords

A suspending chord is the harmonization of one or more suspending tones. In previous lessons we met suspensions on several occasions. We learned about the maj7 (Δ) suspending (delaying) the 6.* Lessons 9 and 10 dealt with the suspension of dominant and tonic chords. We learned about the suspending four-six ($^{6}_{4}$) chord, about the 4 suspending the 3 (sus), the 13 as a suspension for the octave doubling of the 5, and the 9 for the octave doubling of the root of the chord. All suspending tones delay chord tones: the root (tonic), the fifth, the third, the sixth and sometimes the seventh. In lesson 13 the suspending minor 7th chord and in lesson 20 the half diminished 7th chord ($^{\varnothing}$) were introduced; both subdominants delay the dominant.

27.1 Suspensions, whether they are chords or tones, have two characteristics in common: they occur on relatively strong beats and delay the main chord, by which they create tension. For example, the forming of the major triad is delayed by the fourth (sus4), which is suspending the third of the triad. We will call the 4 (or its octave doubling) over the root of a major triad a *conditional dissonant.* Similarly, we saw the dominant triad suspended by the fourth, in conjunction with the sixth, over the root of the dominant, forming a suspending $^{6}_{4}$ tonic triad (lesson 11.2). Therefore, this suspending inversion of the triad also forms a conditional dissonant.**

27.2 The first beat of a measure normally has the strongest accent (stress). It is called a *strong beat.* E.g. in a $^{4}_{4}$, i.e. *quadruple meter*, derived from the two-four or *duple meter* (¢), the strongest accent is on the first beat and the weaker on the third beat. The second and fourth beats are still weaker. In a *triple meter* the first of three beats is strong. Of a group of 4 eighths, the first and third are stronger than the second and fourth. This organization of accents also applies to groups of measures: of a group of two bars, the first is the *strong bar*, etc.

27.3 The suspending chord (m7 or sus4) is usually found on an accented beat and in a relatively strong (odd) bar. We can hear for example:

Dm7 G7 | **Dm7** G7 || or **Dm7** | G7 | **Dm7** | G7 || or
Dm7 | G7 | **Dm7** G7 | C || or **G7sus** G7 | C ||

* The 6 which is added to a triad, although traditionally a dissonant, is in jazz music regarded as a (colouring) chord tone.
** In the section on the *overtones* in volume 2, this phenomenon will be discussed.

27.4 If a II7-V7 progression doesn't fulfil the conditions as mentioned above, the II7 normally is not considered to be a suspending m7 and consequently no embellishing chord. This means that the m7 in such a progression is an essential part of the harmonic structure, and can normally not be left out.

27.5 In example 1 we see the first four bars of ALL THE THINGS YOU ARE. Preceding V7 (E♭7), we hear the IInd degree (B♭m7) of A♭ in the second bar. This is a relatively weak bar (even bar) where as E♭7 is placed in the relatively strong third bar (odd bar). B♭m7 doesn't fulfil the conditions as mentioned above, and consequently is not a suspending, embellishing chord. It can therefore not be omitted and substituted by E♭7 without disturbing the metrical* and harmonical logic of these bars.

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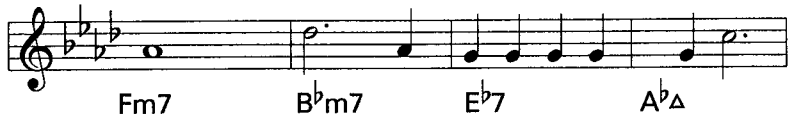

27.6 In example 2 we see Gm7 in the strong third bar of HOW HIGH THE MOON. It fulfils the conditions of a suspending chord and can consequently be omitted and substituted by C7; the chord delayed by Gm7. Although the harmonisation will be more or less impoverished by the lack of embellishing chords, this doesn't really disturb the logic between the harmonies of the progression. GΔ/9 in the example also fulfils the condition of a suspension; it is positioned on a strong beat in a strong measure. The 9 (*a*) of GΔ/9 in the melody is an ascending suspension for the 3 (*b*) of G6, and the Δ (*f*♯) in the middle voice of GΔ/9 is a descending suspension for the 6.

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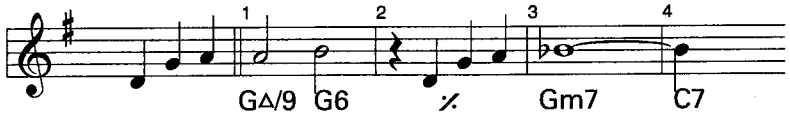
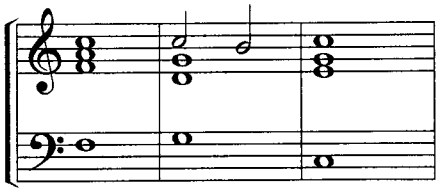


27.7 A suspension can occur prepared or unprepared. The *prepared suspension* shows a chord tone becoming a suspending tone in the next chord. Especially in jazz music, the distinction between a prepared and an unprepared suspension is not of vital importance.

- In example 3, the 5 (*c*) of the F triad becomes the suspension for the 3 (*b*) of the dominant.
- The 5 of the dominant in example 4 (*d* of the G triad) prepares the ascending suspension for the 3 of the tonic (*e*). We see Csus2 (or sus9)→C.
- Example 5 shows four suspensions: three prepared and one unprepared. The 5 (*a*) and the 7 (*c*) of Dm7 prepare the suspension of the *g* and *b* in G7. The

3



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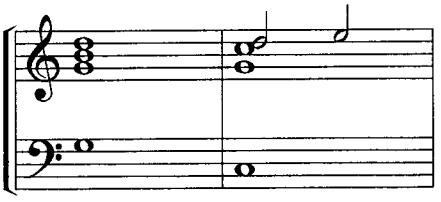

Csus2

* The perception of strong–weak (stressed–unstressed).

7 of G7 (*f*) prepares the sus4 (*f*) in C6. The *a* in the third bar is the suspension for the 5 (*g*) of the C triad. The $a^{\flat}$ is a *passing tone* between *a* and *g*.

27.8 Also the tonic can be suspended in many ways:

- The most common suspension is the four-six ($^{6}_{4}$) chord of IV; the so-called 'Amen' close. Example 6 (*) shows this $^{6}_{4}$ chord of IV (F with 5 in the bass) delaying the tonic triad (C).
- Example 7 (*) shows an extended C^{o} suspending C6 in two steps: first to C△/9, then to C6 (NB!).
- In example 8 (*), the dominant diminished chord ($B^{o}=A^{\flat o}$) suspends the middle voices of C6/9.

27.9 In example 9, the secondary dominant of V^{7} ($F^{\sharp o}$= VII in G minor-major or G minor) is placed above the root of the dominant (G7/–9). We recognize the same melody as in example 8. The suspending melody tone $e^{\flat}$ (–13 of G7/–9/–13 in example 8), however, is harmonised with $F^{\sharp o}$.The latter chord, which is the upper structure of D7/–9, suspends (delays) the complete G7/–9 that follows. Also *d* could be in the bass. In that case we see a short dominant chain:

D7/–9→G7/–9.

The use of Dm7 as a suspending chord for G7 is less appropriate here, as the lead $e^{\flat}$ doesn't always fit in Dm7.*

27.10 The descending seventh ($c^{\sharp}$↘c) in example 10 forms a rather strong dissonant, but attractive embellishing chord. The minor seventh *c* of $D^{\varnothing}$ (or Dm7) is suspended by the major seventh $c^{\sharp}$. If the chord is placed in a lower register, octave doubling of the moving sevenths can also be left out.

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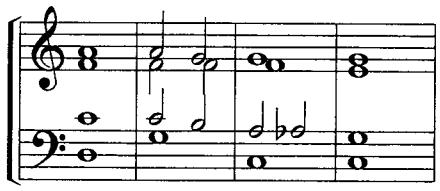

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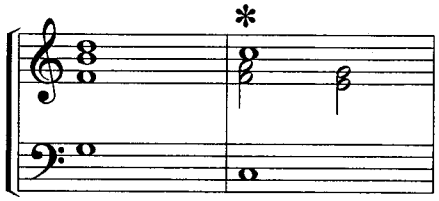

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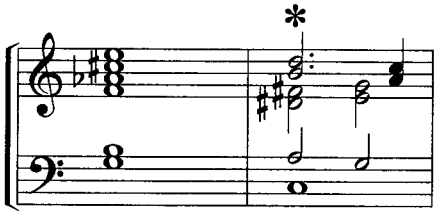

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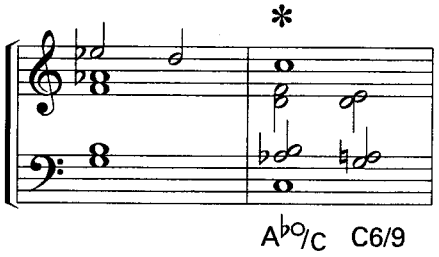

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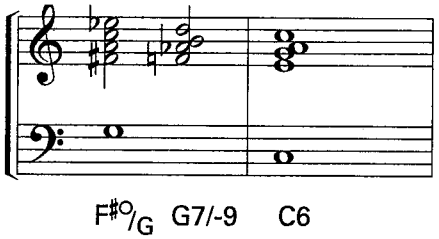

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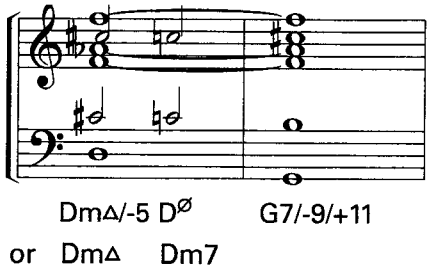


* See also lesson 20.2.

27.11 With common chord symbols it is not always possible to correctly represent a suspending chord. In such case one could write the suspending sonority as a familiar chord symbol combined with a bass tone after a slash. See example 8: $A^{\flat o}/C$. Do not confuse this slash with the slash used to indicate chord extensions.

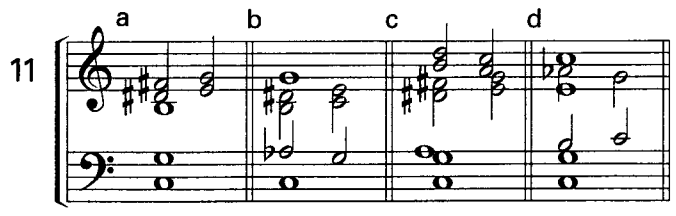
27.12 The 4 (or 11) is a strong dissonant in conjunction with a major 3; so is the –6 in conjunction with the 5 of a major as well as a minor triad. *Even in the absence of both the major 3rd or 5th, if only the root tone of the chord is played in the bass, the 4 and –6 are conditional dissonants.**

These *descending leading tones* are strong suspensions for the major 3 and the 5 respectively. In a minor chord the 4 (or 11), in conjunction with the minor 3 sounds less dissonant. It's not a descending leading tone, and therefore quite common. The –6, however, sounds out of place, also in a minor chord (see also 27.19). The 4 (11) and –6 are the root and the 3 respectively in IV and the 5 and 7 in VII, in both minor and minor-major, e.g. in C minor or mm, the *f* and $a^{\flat}$ from Fm and B^{o}.

The major seventh (Δ) we know, besides as leading tone, as suspension for the 6 of I, and the 9 as suspension for the octave doubling of the root of I. These tones can resolve descending as well as ascending. Because the Δ and the 9 allow the tones, towards they tend to resolve, to be present in the same chord, they are considered to belong to the superimposed third structure of the chord and became chord extensions. Therefore, apart from being suspensions, creating motion, they also can be applied statically as *colouring dissonants*. As we see in example 8, the *d* of $A^{\flat o}$ keeps its position and becomes 9 in C6/9. The *b* descends as suspension for 6, but could also have stayed as Δ. In the latter case, however, the interval of a minor 9th between the *b* and the *c* in the lead results in a rather strong dissonant.

27.13 Normally, a suspending tone doesn't allow its resolution to be present in the chord at the same time. In certain cases, however, as mentioned above, the suspending tone – e.g. the major seventh (Δ) for 6, the 9 for 1 or the augmented eleven (+11) for 5 – functions as colouring dissonant in conjunction with its resolution. In these cases, the suspending tone and its resolution, both present in the chord, usually form an interval of a minor or major 7th, or a major 9th interval and sometimes a whole or half step.

➤ Example 11a: The suspending $f^{\sharp}$ resolves to *g*, while the same tone, one octave lower, is in the chord. The interval between the suspending tone ($f^{\sharp}$) and its resolution (*g*), already present, is a major 7th. See also 27.16.



* See lesson 27.1.

**This matter is discussed further at various places in this lesson.

➤ Example 11b shows the descending suspension $a^{\flat}$ for *g*, whereas the *g*, although one octave up, is present in the chord. Once again, the interval between the tones $a^{\flat}$ and *g* is a major 7th. (see also 27.12).

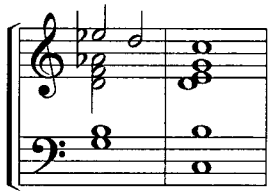
➤ Example 11c shows the suspension *b* (△) for *a* (6). The *a* (6) is already present, a major 9th under the *b*, in the chord. In the second chord the interval between the suspension (*a*) and its resolution (*g*) forms a whole step (major 2nd). The 6 has largely lost its dissonance and suspending character in jazz, and therefore is accepted as *added chord tone* to the C triad (C6).

27.14 *The strongest dissonance between a suspending tone and its resolution is created when these tones form an interval of a minor 9th.*

➤ In example 11d the suspensions in the chord create strong dissonance. The position of the *b* is a minor 9th (–9) under its resolution (the lead *c*). Also the $a^{\flat}$ is a minor 9th above its resolution *g*.

➤ In example 12 the position of the $e^{\flat}$ (–13) in G7/–9/–13 is a minor 9th above its resolution (*d*). Therefore, the 5 normally will be omitted in a dominant 7th chord extended with –13. Even when the 5 in a dominant 7th chord is positioned over the –13, forming the interval of a major 7th, the dissonance between the tones is not really acceptable.* By some it is even preferred to avoid the combination 5 and major 13 in a dominant 7th chord altogether. *One should keep in mind, that an interval of a minor 9th between the middle voices or between one of the middle voices and the lead may create too strong a colouring dissonant in a chord.*

12

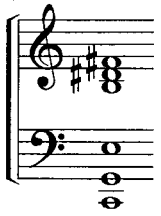


27.15 Although the major 7th is a chord extension and belongs to the superimposed thirds construction of a chord, one should be cautious to position this tone a minor 9th below the root tone; the same applies for the 7 over the 13 in a dominant 7th chord. One usually prefers the 13 above, instead of below the 7 of the chord.

In volume 2 we will learn how strong dissonants like the interval of a –9 generate motion.

27.16 The +9 and the +11 ($d^{\sharp}$ and $f^{\sharp}$ in example 13) have the character of an ascending leading tone to the 3 and the 5 respectively of a major triad (see examples 7, 11a and 11c), and therefore can function as suspensions for these tones. Under certain conditions, however, they both accept their resolution in the same chord appearing as colouring dissonants in conjunction with the 3 and the 5; usually in a final chord (BIRTH OF THE COOL, example 13). They originate from the unresolved diminished 7th chord of the raised II, about which we will learn more in the next chapter.

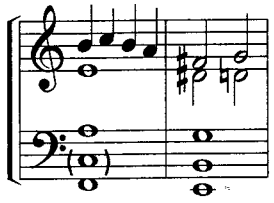
13

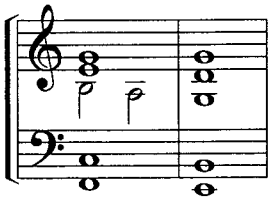


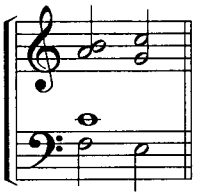
27.17 The 7th tone of the major scale (leading tone) can be a suspension for 3 or 5 of IV. It forms the +11 and can, with or without its resolution, be present in the chord (examples 14a and 14b). In some cases the +11 can resolve exter-

* Obviously, dissonance is a subjective assessment, mainly depending on style and conditioning. One should keep this in mind whenever the subject comes up.

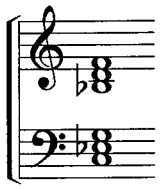
nally to the root of the tonic chord: *b* ↗ *c* in example 14c. IV+11 is one of the few subdominant chords in which an ascending leading tone can occur.

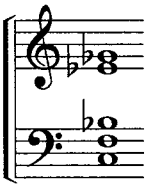
14a 

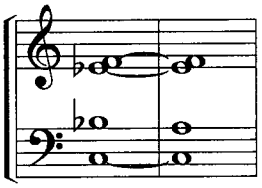
14b 

14c 

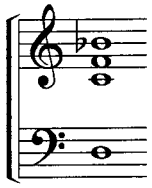
27.18 In m7, m6 and in half diminished chords the 11 (*f* in example 15a) or 4 (*f* in example 15b) is often applied as colouring dissonant in conjunction with the minor (!) third. In these cases, the 11 is more an extension of the chord – or an anticipation of the chord's resolution – than a suspension for the minor 3rd. In example 15c we see: Cm7/11→F7/C. The 11 in Cm7 is an anticipation of the root tone of F7/C (see also lesson 13.4 and 13.9). Due to its lower position, the 4 (like the 6) usually is called an added tone instead of a chord extension.

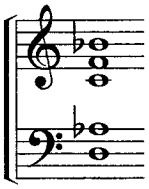
15a 

15b 

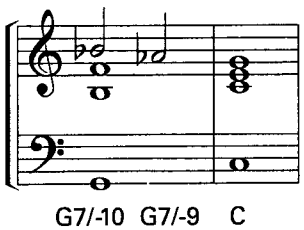
15c 

27.19 As discussed in 27.12, even in minor, the –6 (–13) in conjunction with the 5 is a strong dissonant. For this reason it only occurs as a suspension for the 5 of the chord. When the –6 is above the 5, the interval between the tones forms a minor 2nd or a minor 9th. This again is a much stronger dissonant than the major 7th, which occurs when the 5 is above the –6. Only over the root of a chord with the 5 omitted (Dm7/–6 in example 15d) or in which the 5 is diminished ($D^{\varnothing}$/–13 in example 15e), we often hear the –6. In those cases, however, we perceive the –6 primarily as *fundament tone** of the chord in the lead. The chords in examples 15d and 15e we hear in fact as $B^{\flat}$ chords with 3 in the bass or with a silent root. The –6 can also occur in the middle voices.

15d 

15e 

27.20 The –10 suspends the –9. In succession these tones together form a suspension for the octave doubling of the root of the dominant 7th chord on V (internal resolution), or form a suspension for the 5 of the tonic (external resolution) as in example 16. Both tones (–10 and –9) are derived from minor or minor-major. The –10 can also function as a colouring dissonant in the chord, in which case the suspension doesn't necessarily have to resolve. The –10 in conjunction with –9 occurs in 7/–9/–10/–13.** It is seldom heard in conjunction with the major 9th.

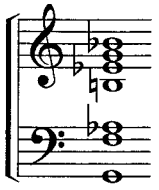
16 

* A fundament tone of a chord is a bass tone which forms, in combination with two tones of the chord, the root of a major triad. See also lesson 35.6.

** The custom to identify this chord as +9 (augmented 9th) instead of –10 is less appropriate, since the resulting raised tone (+9) usually doesn't occur in the key in which the chord is applied.

➤ Example 17 shows G7/–9/–10/–13 (difficult to play!), in which the –10 ($b^{\flat}$) as well as its resolution –9 ($a^{\flat}$) are present. The descending suspension $b^{\flat}$ is positioned a major 9th above its resolution $a^{\flat}$. In this chord we see the case of an interval of a minor 9th between the suspending tone ($a^{\flat}$) and the tone to which it tends to resolve (g).

17



G7/–9/–10/–13

The interval of the –9 in this chord, however, doesn't occur between the middle voices or between one of the middle voices and the lead, but between the bass and one of the voices.

*The interval of a –9 above the bass in a dominant 7th chord creates a mild dissonance.**

27.21 In general we can state, that the conjunction of two tones with the same letter name, one of which is altered – lowered or raised – form too strong a dissonant in a chord, except when applied as suspension. This is specifically true for the conjunction of the 5 and +5 (–6), unless the 5 is positioned directly over the bass, the 13 and –13, 7 and Δ, and the 9 and –9. The –10 together with the major 3rd is an exception to this, which is hardly surprising, since the –10 without major 3rd doesn't exist; without major 3rd the –10 is just the minor 3rd of a minor chord. Only when the major 3rd is positioned a minor 9th (augmented octave) over the –10 we hear the strong dissonance of a major 3rd in a minor chord.

Comparable with the –10 in dominant 7th chords, unaltered extensions of dim chords also occasionally occur in conjunction with altered chord tones. Usually, these extensions, like the –10, are unresolved suspensions functioning as colouring of the chord. See example 8 in lesson 22.

➤➤ In volume 2 we can read how the 'Barry Harris sixth diminished scale' creates more possibilities for suspending tones moving independently from the bass.

SUMMARY OF TERMINOLOGY USED SO FAR

◆ **Chord tone** The root (1), third (3), fifth (5) of a triad are static chord tones. The seventh (7) usually is a dynamic chord tone. Chord tones can have a bass function. In jazz the 6 is normally considered as being a chord tone. The major 7th can either be a chord tone or a chord extension (see below).

◆ **Extension** A tone is called a chord extension if it's not a chord tone but still belongs to the upper structure of the superimposed thirds of the chord. Chord extensions have an essentially melodic function. They are unresolved embellishing tones, mainly suspensions. The major 7th, 9th, 11th and 13th are known to be chord extensions. In the bass a chord extension is exclusively an embellishing tone.

* The reason for this phenomenon is dicussed in the lesson on overtones in volume 2.

- **Addition** — Tones which are part of a chord and do not belong to the construction of superimposed thirds are called added tones. A further distinction between chord extensions and added tones is the usual lower positioning of added tones in the chord, and the fact that added tones are mostly static and have no obvious melodic origin. An exception to this is the –10 in a dominant 7th chord. This tone can be static – in blues-type harmony – or dynamic. The 6 added to a minor or major triad, the 4 added to a minor, m7th or half diminished chord, and the –10 added to a dominant 7th chord are the most common added tones.

- **Colouring** — Every tone can be applied to colour a chord, whether the colour is appreciated or not. Colouring of a chord depends on taste, style and conditioning. Usually, it is brought about by introducing a degree of dissonance to the chord. This dissonance can be from beautiful to unbearable. Once in a while, colouring can effectively be achieved, when the dissonance of a chord is reduced instead of intensified.

  Sometimes the tone which generates dissonance needs to be resolved, in which case the colouring tone is a suspension and has a dynamic character.

  Advice: *Be cautious with colouring of chords, in a tonal context it might easily be overdone.*

- **Sonority** — A vertical combination of two or more tones, which is not necessarily identified as an interval or a chord.

- **Chromatic** — A succession of tones with the same letter name. The tones are derived from the same prime tone.

- **Diatonic** — A succession of different prime tones or of tones derived from different prime tones. The tones have different letter names.

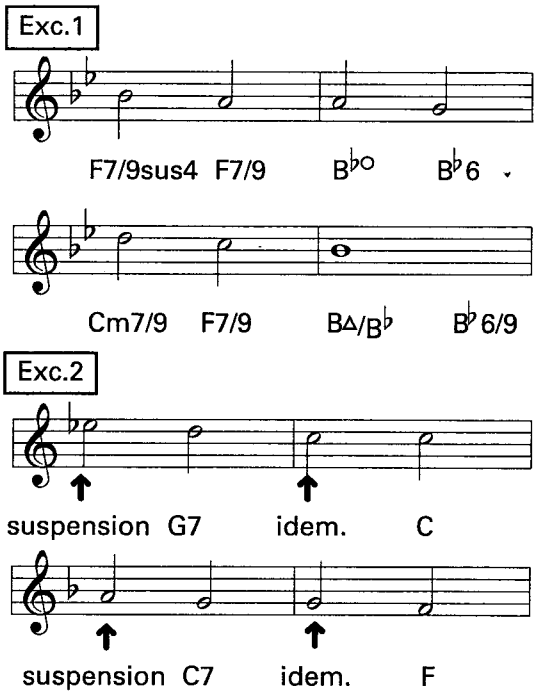
  A succession of scale tones or scale-tone chords usually is a diatonic succession; a diatonic succession, however, does not necessarily have to consist of scale tones; essential is the use of different letter names.

- **Secondary dominant** — A non-scale-tone dominant for a chord other than the Ist degree; usually for one of the other scale degrees. In Roman-numeral notation, secondary dominants are written between square brackets: [ ]. We distinguish [V^7], [VII^7] and [TR V^7].

- **Double dominant** — Is the specific name of the secondary dominant for the dominant; usually for V^7.

- **Enharmonic change** — A different letter name for a tone with the same pitch: $c^{\sharp}$ becomes $d^{\flat}$, c becomes $b^{\sharp}$ or $d^{\flat\flat}$, etc.

Exercises:



✔ Play the examples of this lesson and try to comprehend them in relation to the text.

✔ Play the exercises opposite on the piano.

NB! F7/9sus4 is an E♭ triad with *f* in the bass.

A four-part diminished 7th chord sounds best when the lower voices are in the following order, starting from the bass:
root (=1), 7, 3 (see also lesson 22.7).

✔ For the places indicated in exercise 2 (arrows) make up some different suspending chords and apply a few extensions or additions to the given chords.

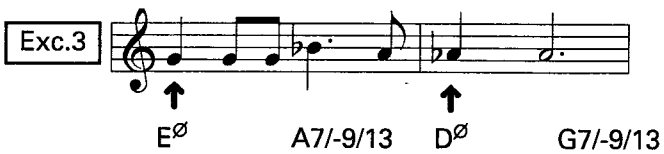
✔ If you encounter places in the text you can not completely understand yet, skip them for a while. They probably will become clear after a second reading later on.

✔ Play the chord sequence below on the piano. See 27.10, example 10, in which the major 7th (Δ) is a suspension for the 7th of the half diminished chord (ø):

DmΔ/–5→D^{ø}→G7/–9 ➡ CmΔ/–5→C^{ø}→F7/–9 ➡ B♭mΔ/–5→B♭^{ø}→B♭7/–9, etc.

DmΔ/–5 sounds like a D♭ triad with *d* in the bass (D♭/D*). The 3 (*f*) of the D♭ triad sounds best in the lead. The B triad is over *c* in the bass; the A triad over *b*♭, etc. We hear repeatedly: Δ→7→3 in one of the middle voices.

✔ Apply the suspension for the 7th of the half diminished chords in above sequence in exercise 3 (arrows).



✔ Transpose exercise 3 (which is in the key of C) to F, B♭ and E♭.

* This slash-chord symbol gives no insight into the harmonic functioning of the chord; it is only applied as simplification.

Lesson 28 Passing tones and passing chords

A passing tone moves stepwise from one chord tone to another. This movement can be internal, i.e. between two tones of the same chord, or external, between two tones of different chords. Passing chords usually are the result of harmonizing passing tones in the bass. Passing tones and chords can move chromatically or diatonically. A passing chord is, contrary to a suspending chord, an unaccented embellishing chord. Like a passing tone it normally (but not always!) appears on a weak beat.
Without mentioning this explicitly, we came across passing chords in the section on secondary dominants (lesson 24.3) and in the sixth diminished scale (lesson 23), in which melody tones are harmonized with passing diminished 7th chords.
We will notice that there is a difference between the voice leading of passing chords in traditional harmony and that in jazz music. However, traditional voice leading is by no means a rarity in jazz.

28.1 In traditional harmony, two successive chords, which move in step-wise motion, never appear both in root position, unless a diminished triad forms the basis of the second chord. This rule is based on the avoidance of undesired parallel motion of certain intervals.* In jazz music, however, one is less concerned with regard to this parallel motion, therefore, in harmony applied in jazz, successive chords in root position are quite common.

28.2 Seventh chords usually are inverted when applied as passing chords. If in the bass, we normally hear the 7 descending, the 3 ascending and the 5 moving in one or the other direction. Because extended chords in many cases can not be inverted, and consequently accept no other chord tone but the root in the bass, one should be careful to apply extensions in a chord which is inverted. Passing sevenths and thirds, due to their leading tone character, by definition, have a rather compulsory resolving tendency, especially when they appear in the bass. For this reason, their octave doubling in a higher register is preferably avoided, as undesired parallel motion of octaves is usually the result of this doubling. Moreover, the sound of a chord can become rather 'muddy' when a 3 or a 7 in the bass is doubled in a higher register (see lesson 31.3).

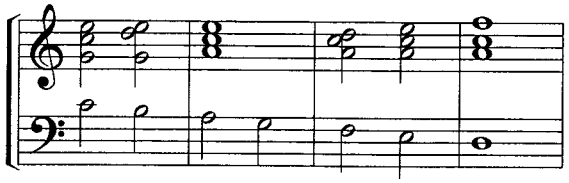
28.3 Sometimes, a passing progression result in a coincidental sonority which can neither be identified as a customary chord nor be reduced to a construction of superimposed thirds (see example 6 in 28.10). Usually these sonorities are the result of passing tones in conjunction with sustained tones. It is often a problem to provide an appropriate chord symbol for such passing sonorities within the harmonic context of the progression (see example 8 and 9 in lesson 29.4).

28.4 Like all embellishing chords, also passing chords are of no great importance for the harmonic structure. Of course tempo and their duration are significant for their harmonic value. The longer they are sustained, the less is their embellishing character.

* Undesired is the parallel motion of intervals of a 5th, octave, and of the traditional dissonants: 2nd, 7th, 9th, etc.

28.5 Example 1 shows a traditional *sekundengang* (German: stepwise movement) in the bass, descending from I (tonic) to II. The passing chords, consisting of scale tones (scale-tone passing chords) with 5 or 7 in the bass, are on the weak beats of the measure (NB!); we see: $Em7/_B$, $Am7/_G$ and $Am/_E$.* In traditional harmony a triad with a passing 5 in the bass, like $Am/_E$, is called a passing four-six ($\frac{6}{4}$) chord. In this case $II\frac{6}{5}$ in measure 3 is a IV with an added 6.
The overall harmonic structure of the progression in this example is: I → VI → $IV^{add\,6}$ → II. The first two measures have tonic and the next two subdominant function.

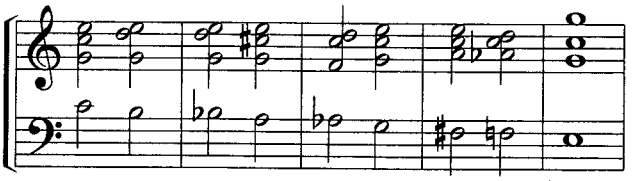
1



I $III\frac{4}{3}$ VI VI^2 $II\frac{6}{5}$ $VI\frac{6}{4}$ II

28.6 In example 2 we see a bass line, descending in chromatic half steps, which ends on I^6 ($C/_E$) in the fifth bar. In this example, not all of the passing chords are on the weak beats. We notice that the emphasis is on I, $II\frac{4}{3}$ and I^6, which appear on the strong beat of the strong (odd) first, third and fifth measures. The remaining chords are passing chords, some of which appearing on the accented beat, however, of weak bars.
In the weak second bar we see the passing [$II\frac{4}{3}$-V^7] progression** in D minor, moving to $Fm6/_{A\flat}$, an inversion of $D^{\varnothing}$ ($II\frac{4}{3}$ in C minor-major).
The strong third bar shows the passing $\frac{6}{4}$ chord of C, on the weak third beat, followed in the fourth bar by the *the two faces of* IV, to which we will pay attention in lesson 36.6.***

2

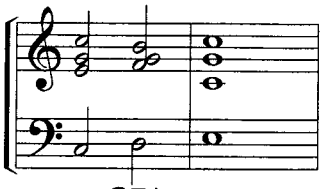


Scale degrees: I [$II\frac{4}{3}$ V^7] $II\frac{4}{3}$ $I\frac{6}{4}$ ♯IV IV($II\frac{6}{5}$) I^6
Functions: Tonic Subdominant Tonic

The basic harmonic functions in the progression of example 2 are: tonic→subdominant→tonic in C minor-major (mm).

28.7 Example 3 shows the ascending progression I → $V\frac{4}{3}$ → I^6. The $\frac{4}{3}$ inversion of V ($G7/_D$) is a traditional scale-tone passing chord, between I in root position and I^6 (3 in the bass).

3



$G7/_D$

* The scale-tone passing chords in this progression can be substituted by secondary dominants:
C $E7/_B$ | Am $C7/_G$ |F $A7/_E$ |Dm7 G7 | In traditional harmony such a progression is named *extended cadence with secondary dominants.*

** Roman numerals between square brackets in the examples indicates a secondary function.

*** We will return to the chromatic passing chords in the lessons on *Passing diminished 7th chords* and *Leading chords* in this chapter, and in the lessons on the *Relation between melody and harmony* in volume 2.

28.8 Example 4 shows the same passing chord as we saw in the first bar of example 1 (III^4_3). Only the voicing of the chords and the voice leading in this progression differ slightly. This is the result of the different lead.

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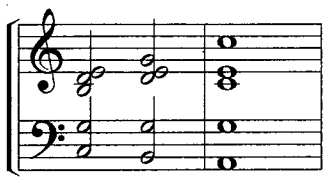

28.9 The 7 (*b*) of CΔ in example 5 is an unharmonized passing tone. The chord which appears over the passing tone is the third inversion of CΔ (7 in the bass). It is called a *2 chord* (in this case I^2). Examples 1 and 4 have the same descending bass line as this example.

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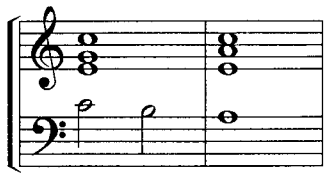

28.10 The passing chord in example 6 is one of those indefinable sonorities (tone combinations) mentioned in lesson 28.3. In jazz music, it could be identified as Am7/4 (NB!). In traditional harmony, it is just a scale-tone passing sonority; two passing scale tones in the progression from I to its first inversion I^6 ($G/_B$).

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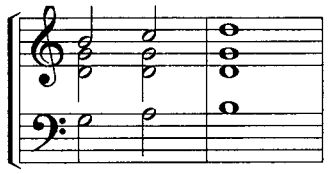
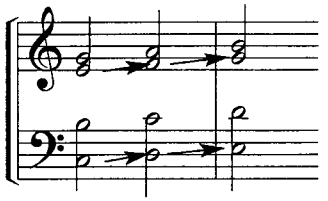


28.11 In jazz music, scale-tone passing chords frequently appear between I and III (example 7) and between II and IV (example 8). These passing chords usually are in root position. The voices can move in:
parallel motion – same interval(s) maintained between the voices.
similar motion – voices move in the same direction.
oblique motion – one or more voices move while others are static.
contrary motion – voices move in opposite direction.
From the examples we may conclude that parallel motion of certain intervals, usually avoided in traditional harmony, is to some extent characteristic for harmony in jazz.*

7



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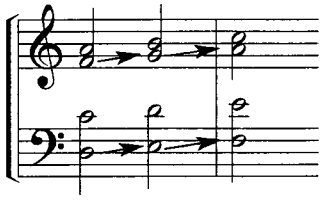

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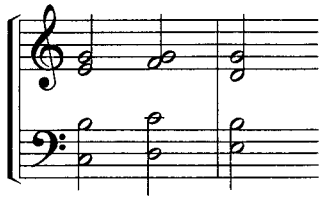

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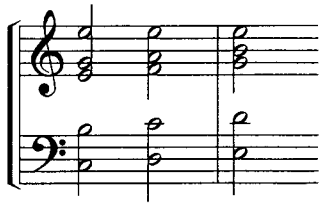

28.12 The examples 9-12 show oblique motion between the outer voices. In examples 13 and 14 the outer voices move in contrary motion. In examples 7 and 8 all voices move in parallel or similar motion.

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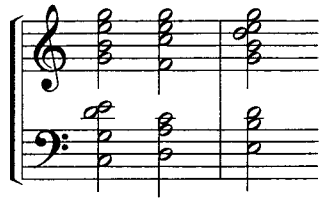

* Probably this practice originates from the guitar player, who not seldom has the habit of moving his fist liberally along the neck of his instrument.

28.13 In examples 7-14 notice the interval of a 10th between 1 and 3 moving in parallel motion to 3 and 5, although this movement doesn't invariably occur in the same voices. We see the 10th *c-e* move to *e-g* (C△→ Em7) and the 10th *d-f* to *f-a* (Dm7 →F△), as indicated by the arrows in examples 7 and 8.

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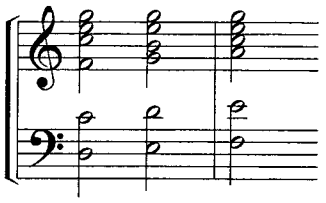

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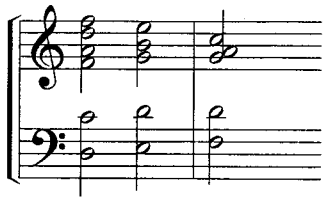
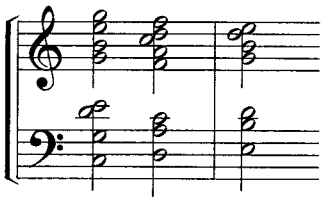


28.14 The overall harmonic function of the progression C△ Dm7 | Em7 is tonic. Often in such a progression Em7 is followed by Am7, the other tonic substitute.
C△ Dm7 | Em7 Am7 | is comparable with two bars C. Depending on the melody, Am7 can be substituted by A7 (or E♭7), in which case it is followed by Dm7 or D7:
C△ Dm7 | Em7 A7(E♭7) | Dm7(D7) |

14



28.15 Dm7 Em7 | F△ has subdominant function. F△ in this progression can precede the dominant. For instance:
Dm7 Em7 | F△ G7 or F° (=VII$^{4}_{3}$)
or a subdominant mm:
Dm7 Em7 | F△ Fm(6) or B♭7/(+11).

28.16 The passing chords in most of the examples can move ascending as well as descending. The progressions therefore can also be read (played) from the right to the left,
C△ Dm7 | Em7 Am7 | in that case becomes: Em7 Dm7 | C△ Am7 |

28.17 Dominant chains, descending in half steps, like we met in lesson 25, also often function as passing chords. Depending on the tempo at which they occur, they have little or no consequences for the overall harmonic structure of the progression.*

One should keep in mind, that above examples merely deal with purely harmonic aspects, i.e. the voicing, connection and functional relation of the chords. Accentuation of the embellishing chords will in practice, however, also have consequences for the rhythmical aspects: a suspension usually has tones of longer duration than its resolution; an unaccented embellishing chord will be of a shorter duration than the chords to which it connects. Later we will shed some light on these aspects of harmony at the piano.

Exercises:

✔ Practice examples 1–6 on the piano.

* Chromatic passing chords will be discussed in the lessons on the passing diminished 7th chord (lesson 29) and on leading chords (lesson 32).

✔ Transpose example 1 to as many keys as possible.

✔ Transpose examples 3–5 to as many keys as possible.

✔ Play the extended cadence with secondary dominants, as shown in the footnote to lesson 28.5, in several keys. Use example 1 as a model.

✔ Practice examples 7–14 as written, also from the right to the left.

✔ Practice the chords below in various keys and in several ways.

F Gm7 | Am7 D7 | Gm7 $Gm7/_F$ | $E^{\varnothing}$ A7 |
Dm7 G7 | Gm7 Am7 | $B^{\flat\Delta}$ C7 | FΔ or F6/9 ||

Treat $B^{\flat\Delta}$ in the voice leading for $B^{\flat\Delta} \rightarrow$ C7, as if it were Gm7/9 with a silent bass. Don't double the $b^{\flat}$ in the upper register. Also remember to avoid doubling of the 7 of $Gm7/_F$ (*f* in the bass) with the right hand.

✔ Play the chords below and extend the progression in the first two bars with an ascending passing chord and a VI chord or a secondary dominant as discussed in 28.14:

$B^{\flat}$ | $\nearrow$ | Cm7 F7 | Dm7 G7 |
Cm7 Dm7 | $E^{\flat\Delta}$ $A^{\flat}$7/9 | Dm7 G7 | Cm7 F7 :‖

Treat the voice leading for $A^{\flat}$7/9 | Dm7 according to the rule of the shortest possible distance.

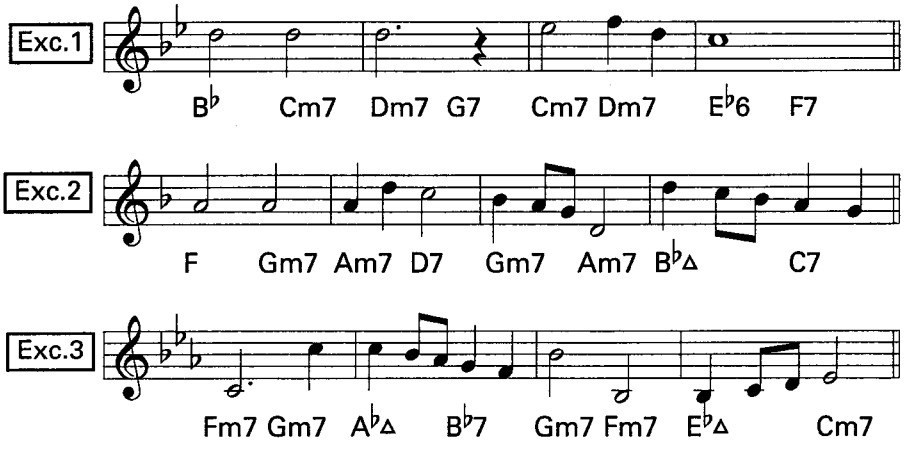
✔ Extend the dominant 7th chords in both progressions shown above with 9 or –9, and where possible with 13 or –13.

✔ Play, where possible, the above progressions (with passing chord) in similar as well as in oblique motion.

✔ Transpose examples 7–14 to F, $B^{\flat}$, $E^{\flat}$, $A^{\flat}$ and $D^{\flat}$.

✔ Harmonize exercises 1 and 2 with a I-VI-II-V progression (one chord per measure) and next play them with the chords as written.

✔ Harmonize exercise 3 with a II-V-III-VI progression (one chord per measure) and subsequently with the chords given below.

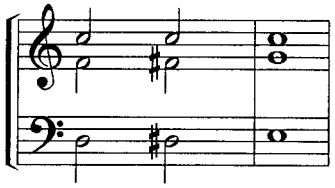


Lesson 29 Passing diminished 7th chords with subdominant function

In this lesson we will become acquainted with the chromatic passing diminished chords on the raised subdominants II, IV and VI. In many a song, embellishing chords like the descending passing diminished 7th chord between III ↘ II or I^6 ↘ II, belong to the harmonic structure as given by the composer (see examples 13 and 14). Often these dim chords can not be omitted without disturbing the song's harmonies. Nevertheless, I would still classify them as passing embellishing chords.

29.1 The following examples will show that groups with two or more consecutive passing chords can occur:
One chord (example 1*), a group with two (example 2), with three (example 3) or even with more (example 4) passing chords. It is not unusual for these passing chords to occur on accented beats.

1



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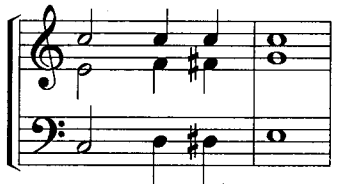
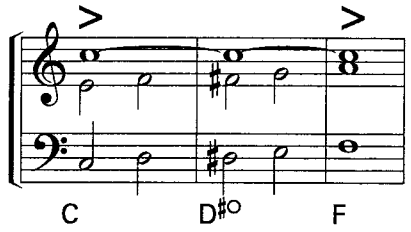


➤ Example 3 shows a passing D♯o (♯II7) chord on the strong first beat of the second bar. We have to keep in mind, however, that the first beat of an even bar has a weaker accent than the first beat of an odd bar. The passing chord on the strong first beat of an even bar has therefore less emphasis than the main chords. For this reason C on the first beat of the first bar and F on the first beat of the third bar are more stressed then the passing chords in between. See also example 2 and 28.6.

3



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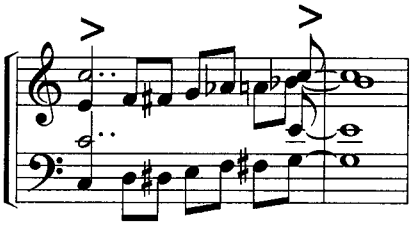

➤ The five passing chords in example 4 are all less emphasized than the first chord (C) and the accented $\frac{4}{3}$ chord of C7, which is tied over to the strong first beat of the second bar. In the examples most of the chords are the result of voice leading and therefore incomplete (NB!).

29.2 The ascending passing dim chords with subdominant function mostly appear between: II ↗ III and II ↗ I^6 and between IV ↗ V or IV ↗ I^6_4 (I with 5 in the bass). In the latter progression the raised II appears in its first inversion $\sharp II^6_5$ (♯II with 3 in the bass). See example 17. Furthermore, we hear ♯VI, passing between VI ↗ VII, embellishing V^7 (examples 8 and 9). Descending passing dim chords most often occur between III ↘ II or I^6 ↘ II (examples 10, 11 and 12). In these examples the passing dim chord, E♭o, is more regarded as the third inversion of a diminished chord on ♯IV, i.e. F♯o with 7 ($e^♭$) in the bass, than as a root-positioned ♯II (D♯o). See also lesson 36.3.

* Notice that in some of the examples the dim chords are incomplete, i.e. the 5 is omitted.

29.3 In the examples 5-7 we see two passing chords between I (C) in root position and the first inversion of I (I^6). The passing chords are Dm7 (II) and $D^{\sharp o}$ ($^{\sharp}$II). The harmonic function of the two bars is tonic (C). If there would have been *g* or *b* in the melody of the second bar of examples 6 and 7, the chord under the lead could have been Em7 instead of I^6 and the progression could have continued with Am7 or A7 on the third beat of the second bar (compare with 28.15).

29.4 On the third beat of the first bar in examples 8 and 9 a chromatic passing sonority appears which cannot be interpreted within the key of the progression. If this sonority is *enharmonically* changed, and $a^{\sharp}$ and $c^{\sharp}$ are rewritten as $b^{\flat}$ and $d^{\flat}$, we see $B^{\flat}m6$ (example 8 ✻) and $B^{\flat}m\Delta$ (example 9 ✻); neither chord belongs to the key of C. These coincidentally occurring sonorities, which have the appearance of a common chord, are called *ornamental harmonies.** *Apparent chords* could also be an appropriate name. See also lesson 28.3.

29.5 The sonority on the second beat of the first bar in example 8 is difficult to reduce to a root position and is difficult to be fitted with an appropriate common chord symbol. It is composed of the two passing tones *a* and *c* in conjunction with the 7 and the root of G7.

29.6 Although $E^{\flat o}$ in the examples 10-12 has all the characteristics of a passing embellishing chord, we will find in many songs that it is part of the harmonic construction and explicitly included in the chord symbols. Although often substituted, it cannot be left out without disturbing the flow of the song's harmonies.

29.7 Over the $e^{\flat}$ in the bass in example 12, we meet another ornamental harmony. If enharmonically changed, we see $A^{\flat}7/E^{\flat}$ appear (NB!). This chord in fact is $E^{\flat o}$, extended with a passing tone $g^{\sharp}$: *g* ↗ $g^{\sharp}$ ↗ *a*.

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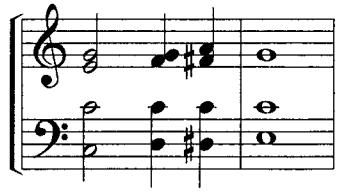

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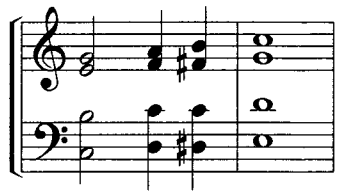

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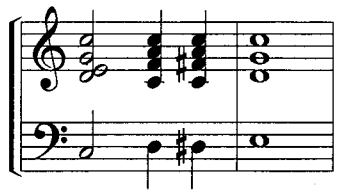

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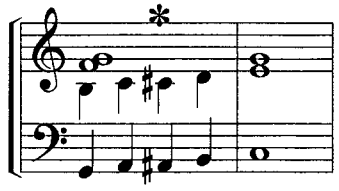

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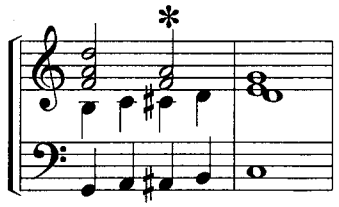

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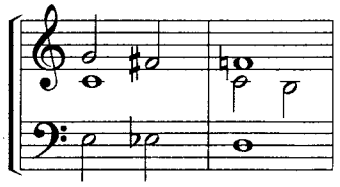

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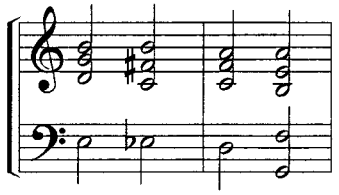

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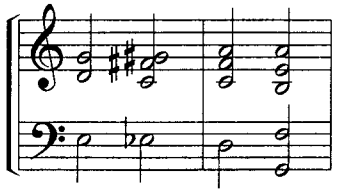
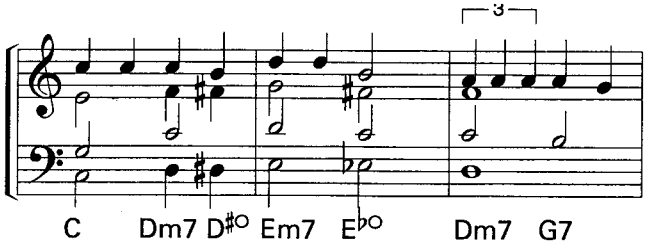


* Specifically these type of passing chords are mainly the result of voice-leading activity.

29.8 In example 13 we see the first three measures of a well-known song. $D^{\sharp o}$ ($\sharp$II) in the first bar is the ascending passing dim chord between II and III. In the next bar the same dim chord – here renamed $E^{\flat o}$ ($\sharp IV^2$ = 7 in the bass) – moves in the opposite direction (descending) between the same chords III and II.

13



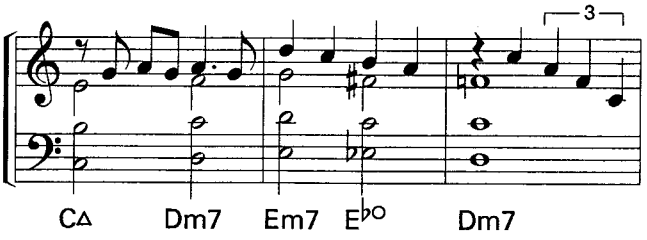
The first two measures could easily be harmonized with:

C |Am7 | or with: C F F^{o} |Em7 Am7/9 |

The composer of the song, however, explicitly wrote between Em7 and Dm7 a descending passing $E^{\flat o}$ chord, by which it became part of the composition.

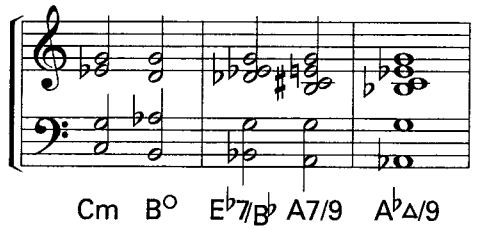
29.9 The measures 3-5 of another famous song are shown in example 14. In this harmonization the composer embellished the two bars tonic, demanded by the melody, with the two passing chords, Dm7 and $E^{\flat o}$. Instead, he could have chosen, for instance, for one bar C and one bar Am7. In both examples the overall harmonic function under the melody in the first two bars is tonic.

14



29.10 Depending on the tonal context, the progression in example 15 can harmonically be explained in more than one way. By analogy with example 11 we can say that the the passing dim chord B^{o} descends between Cm (III) and $E^{\flat}7/B^{\flat}$ ($V\frac{4}{3}$) in the key of $A^{\flat}$. Due to the melody tone *g*, $B^{\flat}m7$ (II^7) is left out. The global harmonic construction is tonic→dominant→tonic. A short excursion to VI ($A^{\flat}\Delta$) in C minor, however, is a more obvious interpretation: B^{o} (VII in C minor) is transformed into a secondary dominant [VII] for $E^{\flat}7$, i.e. B^{o} is enharmonically changed to D^{o} (VII in $E^{\flat}$). Therefore, the passing dim chord (D^{o}/B) moves between the tonic Cm and $E^{\flat}7/B^{\flat}$, the dominant for $A^{\flat}$.

15

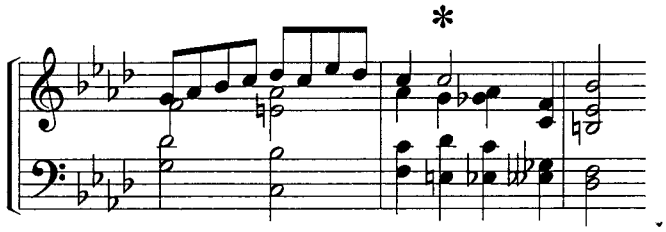


The overall harmonic construction is:

tonic→secondary dominant→subdominant (I→[$V\frac{4}{3}$]→VI).

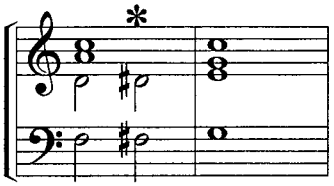
29.11 A similar case we see in measure 6 of another ballad shown in example 16. The passing dim chord E^{o}(*) occurs between Fm and $A^{\flat}7/E^{\flat}$. Because the melody tone *c* (leading tone like the *g* in example 15) doesn't allow the use of the suspending m7th chord $E^{\flat}m7$ for $A^{\flat}7$ (see also lesson 54), $A^{\flat}7/E^{\flat}$ immediately follows E^{o}.* In this example the progression leads to $D^{\flat}7/(9/13)$ instead of to $D^{\flat}\Delta$ (VI).** We hear: V^{7}→I in f-minor→[V^{7}] chain.

16



29.12 In example 17, between *f* and *g* in the bass, we see a passing $F^{\sharp o} = {}^{\sharp}II^{6}_{5}$ (*). Instead of G7 over the *g* in the bass, we see $C/_{G}$. This chord could be followed by G7, as is the case in example 18. The passing progression in example 18 is identical with the one in example 17; some chords, however, are coloured by extensions or added tones.

17



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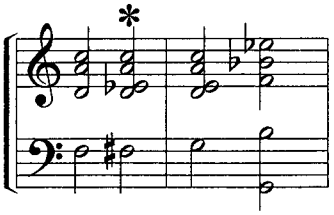
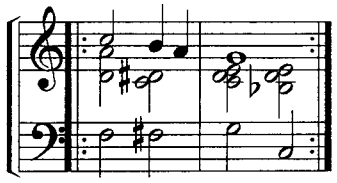


29.13 In example 19 the C chord with *g* in the bass (I^{6}_{4}) is followed by C7/9. This progression forms a so-called *vamp*. Such a repetitive progression can – among other things – be applied as an introduction: 'Play till cue'. It could have continued also as follows:

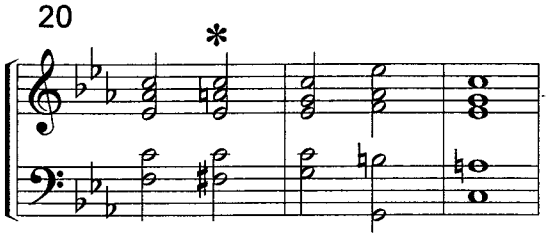
F6 $F^{\sharp o}$ | $C/_{G}$ **A7** | **D7 G7** | **C G7** || or **C7** :‖

19



29.14 In examples 20 and 21 we meet some progressions in which $F^{\sharp o}$, this time in root position (diminished 7th chord on the raised IV in C minor), functions as a passing chord (*) in minor. We often hear, however, these progressions in major as well.

20



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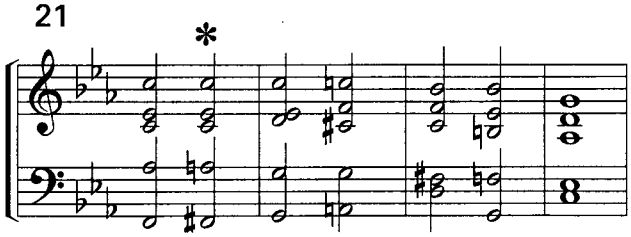


In chapter 7 on *alterations* and *altered chords* we will go somewhat deeper into the harmonic background of the diminished 7th chords discussed in this chapter.

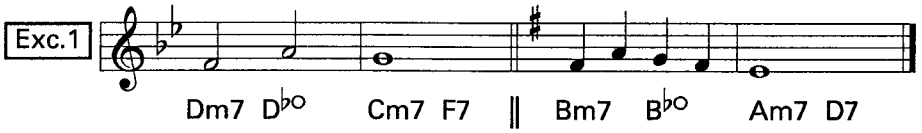
In the scales corresponding with altered chords like ♯II and ♯IV, the alterations should match those in the chords. For example, in $D^{\sharp o}$ (♯II), $d^{\sharp}$ and $f^{\sharp}$ are the alterations; the corresponding scale is E minor harmonic, i.e. the C major scale with the two alterations $d^{\sharp}$ and $f^{\sharp}$. In $F^{\sharp o}$ (♯IV), which is derived from C melodic minor, the alteration is $f^{\sharp}$ and $e^{\flat}$ is borrowed from C minor; the corresponding scale is C major with $f^{\sharp}$ and $e^{\flat}$ instead of *f* and *e*. This is the scale of G harmonic major starting on *c*.

* In case the leading tone is in the melody – like in this example – it also can be seen as 13 of the suspending m7 chord, provided the tone resolves descending or keeps its place. In that case we usually hear the complete superimposed third construction of m7.

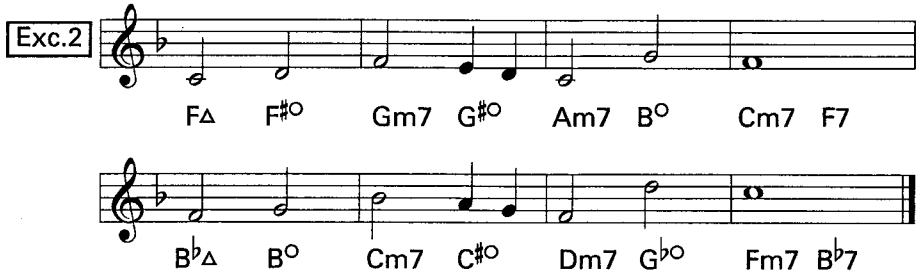
** In lesson 36 we will discover that in traditional harmony, $D^{\flat}7$ in this example is called an inversion ($^{6}_{5}$) of the seventh chord of the raised IV in F minor.

Exercises:

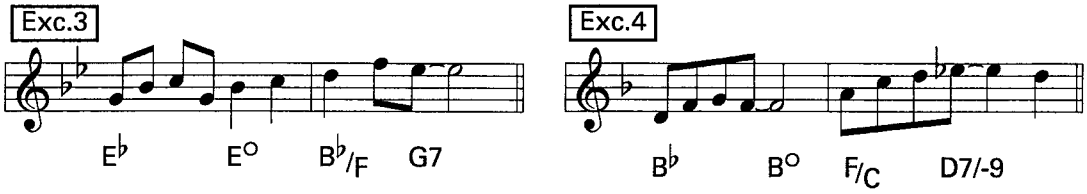
- ✔ Play all examples of this lesson on the piano.
- ✔ Transpose each of the examples 5, 6, 10 and 11 to F, G, A♭ and B♭.
- ✔ Transpose the examples 1, 2, 3 and 8 in half steps up over an octave. Aim at achieving some fluency.
- ✔ Play the measures in exercise 1 (III7→ ♯IV2 → II7 → V7) in all keys on the piano, as long it takes to play them reasonably fluent.



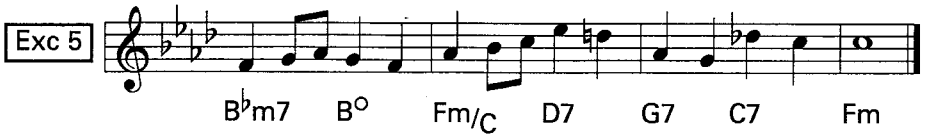
- ✔ Play exercise 2, first as given in F and then, after Fm7 B♭7, in E♭.



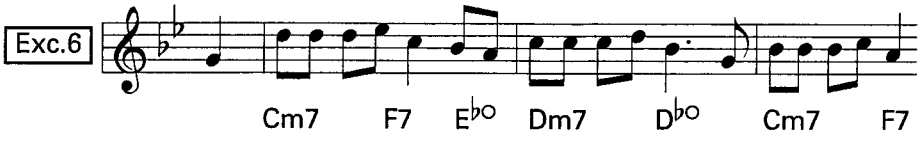
- ✔ Play exercises 3 and 4, and make a harmonic analysis the same way it has been done for exercise 1.



- ✔ Transpose exercises 3 and 4 to G, C and F
- ✔ Play exercise 5. Don't forget the voice leading for the dominant chain.



- ✔ Play the fragment of exercise 6 in several keys.



If you know the melody, try to finish the song.

Lesson 30 Alternating chords

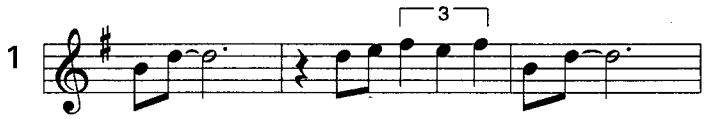
A couple of times we have already encountered alternating chords, although not explicitly stated. In lesson 26, in the 3rd and 4th bar of examples 3 and 4, we saw G7/9 alternating with an extended A♭7 chord. If one or more voices of a chord move – forming a new chord – and subsequently return to their original position, we speak of an *alternating chord.* The movement of the voices can be stepwise (half or whole steps) or leapwise, up or down. The bass can be an alternating tone, while some or all other voices stay static, or move in any direction each (parallel, similar, contrary or oblique motion). The bass can also be static while some or all other voices move.

In traditional harmony a non-chord tone (dissonant), which moves stepwise up or down and returns to its point of departure, is called a *neighbouring tone.* If the bass moves stepwise, not leapwise, an alternating chord is also called a *neighbouring chord.* Usually alternating and neighbouring chords are unaccented. Their harmonic function is, in most cases, subordinate to the chord with which they alternate.*

30.1 Probably the most frequently occurring alternating chord is a dominant (or secondary dominant) of the main chord.

(1) C G7 | C or C B° | C or C | D♭7/(+11) | C , etc.
(2) Dm7 A7 | Dm7 or Fm7 C7 | Fm7 or B♭m7 A° | B♭m7 , etc.
(3) G7 D7 | G7 or E♭7 F♭7 | E♭7 or F7 E° | F7 , etc.

30.2 Progression 1 is the original harmonization of the first three bars of the song in example 1. The altered dominant D7/+5, i.e D7 with raised 5 ($a^{\sharp}$) in the weak second bar, alternates with the tonic G. In its place could also be the tritone-related (TR) dominant A♭7/+5/+11 (progression 3).
The basic harmonic structure of the first three measures is three bars tonic (G). Although rather excessive, the melody could also be harmonized with the chords of progression 4. In that case, the tonic would be on the strong first beat of every bar.



1	G		D7/+5		G		
2	G		G	D7/+5	G		
3	G		A♭7/+5/+11		G		
4	**G**	D7/+5	**G**	D7/+5	**G**	D7+5 etc.	
5	G		C7/9/+11	(F♯7/+5)	G		

30.3 The tonic in example 1 could also alternate with a subdominant borrowed from minor; in progression 5 we see the extended C7/9/+11, IV borrowed from G minor, or its tritone substitute F♯7/+5 (see also lesson 38.20). Other subdominant chords could also act as alternating chords for the tonic, the choice of which obviously depends mainly on the melody.

* The most simple alternation with the dominant is produced by the so-called oscillating bass, as one can hear in harmonically simple fragments of waltz- and march-like music, where the tonic triad alternates with its $^{5}_{3}$ chord; i.e. a tonic triad with 5 in the bass.

30.4 Other alternating chords can be seen in example 2. It shows the middle part (bridge) of a well known jazz standard. In bars 1 and 5 we notice the neighbouring chords G♭7 and F♭7. The B♭7 chord in bars 3 and 4 could also alternate with the second inversion ($\frac{4}{3}$) of F$^{\varnothing}$. In that case the alternating chord (F$^{\varnothing}$/C♭) would also be a neighbouring chord. In this example we see the II, F$^{\varnothing}$ preceding B♭7, applied as an unaccented alternating chord instead of an accented suspending m7(–5) chord. Bars 3 and 4 could also easily be harmo-

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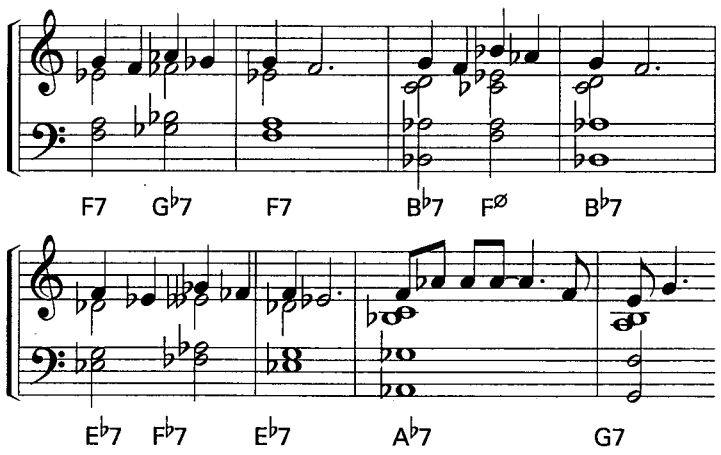

nized with a common II-V progression: Fm7 |B♭7 |, the composer, however, preferred B♭7 F$^{\varnothing}$ |B♭7 | and we appreciate his inspiration. The song in the example, although usually played in D♭, is here written in C. If it had been written in the original key, the bridge of the song, shown above, would have been, due to uncommon flats and double flats, even harder to read for the inexperienced music reader.

30.5 The examples 3-6 show some alternating chords as they may occur in practice. In example 3 we see as a model I alternating with IV$^{6}_{4}$. Any subdominant chord – altered or unaltered, either from major or from minor – could take its place, provided it fits the melody tone *c* and sounds nice.

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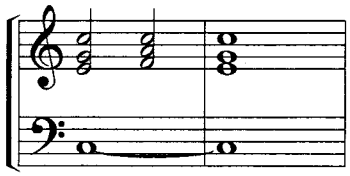

30.6 In the examples 4 and 5, we see the tonic C, alternated by VI borrowed from minor. Example 4 shows the first inversion (3 in the bass) of A♭Δ/9. The bass is static and the middle voices move. In example 5 the alternating chord is in root position and some of the middle voices are static.

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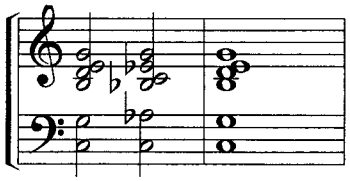

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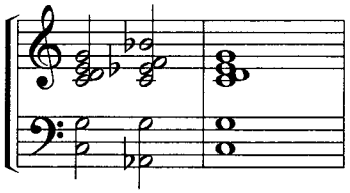

30.7 In example 6, C$^{\circ}$ alternates CΔ. A similar case we hear in the first couple of bars of I REMEMBER YOU (example 7). In these bars too, the inverted diminished 7th chord of the raised II (F$^{\circ}$ =G$^{\sharp\circ}/_{F}$) alternates the tonic; a little more elaborate than in example 5. More than one would expect from an embellishing chord, this alternating chord is part of the harmonic structure of the composition. Most players, however, substitute it with Bm7 E7, which more or less shows that the chord doesn't contribute that much to the solidity of the structure. If necessary E7, or even C7, could replace it. Compare F$^{\sharp}$7/+5 in 30.3.

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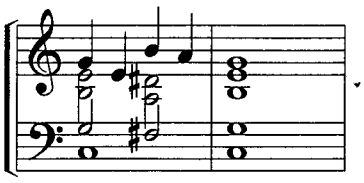

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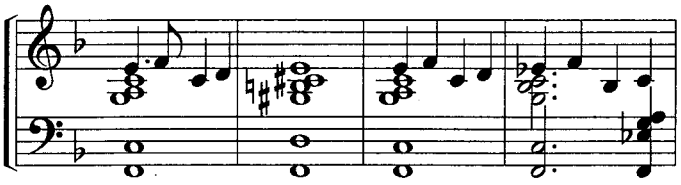
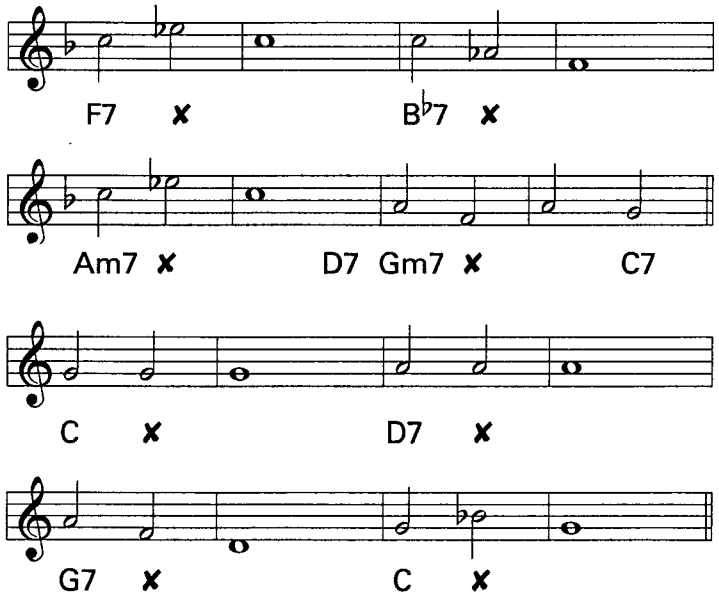


Exercises:

- ✔ Play the examples on the piano.
- ✔ Alternate Cm7, Bm7, Fm7 and B$^{\flat}$m7 – with 5 in the lead – with a secondary dominant 7/–13/–10 chord with –10 in the lead.
- ✔ Alternate Dm7/9, Em7/9, Am7/9 and Gm7/9, with 3, 5 or 7 in the lead, with a tritone-related secondary dominant. For instance, a dominant 7/–13 chord with –13 in the lead.
- ✔ Alternate FΔ/9, B$^{\flat}\Delta$/9 and E$^{\flat}\Delta$/9 with an appropriate subdominant from major, or borrowed from minor, while maintaining a static bass.
- ✔ Play opposite exercises.
  At places marked with ✘, insert an appropriate alternating chord.
  Colour the chords at will.
  At places where chords have been omitted, insert the correct ones.
  Bring in some syncopation.



Lesson 31 Approach chords

The bass of *approach chords* is reached by a leap or a fall, and subsequently makes a ascending or descending step.The leap or fall can move in similar or in contrary motion with the step: leap up, step up ↗↗ ; leap up, step down ↗↘; fall down, step down ↘↓ ; and fall down, step up ↘↗.

31.1 Approach chords, like passing and alternating chords, usually occur on the relatively weak beats. They have little harmonic weight. Occasionally they belong to the harmonic structure of a composition and are therefore mentioned in the chord symbols given with the melody. They can be left out or easily be substituted. Often, scale-tone passing chords can substitute for approach chords composed of scale tones, or the other way round.

31.2 The most frequently heard approach chords are TR secondary dominants and diminished 7th chords. The bass of the TR dominant moves a half step down, of the dominant diminished chord a half step up, and of the subdominant diminished chord a half step down. In a somewhat more traditional setting, we hear triads and dominant 7th chords, both with 3 in the bass, half diminished chords with 5 in the bass, and sometimes a dominant 7th chord in root position. Significant is that the bass, after a leap or a fall, continues stepwise, preferably in contrary motion and as an ascending or descending leading tone.

31.3 Example 1 shows a transition from the key of C to the key of F, where Gm7 is II in F. It is preceded by the approach chord $A^{\flat o}$. The progression could proceed to Dm7:

Gm7 $Gm7_{/F}$ | $E^{\varnothing}$ A7/–9 | **Dm7** G7 |

In that case, Gm7 would be IV in the key of D minor. Remember:

The 7 of a chord in the bass ($Gm7_{/F}$) *is preferably not doubled in the upper register.**

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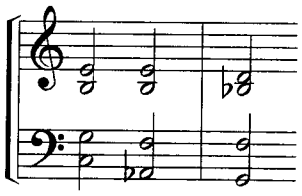

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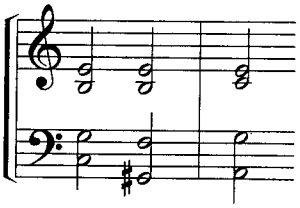

31.4 In example 2, the same approach chord $A^{\flat o}$, renamed $G^{\sharp o}$, is secondary dominant, [VII], for Am7. The progression could proceed to F:

Am7 D7 or $F^{\sharp o}$| Gm7 C7 | **F** |

If $F^{\sharp o}$ would follow Am7 or C, it also would be an approach chord to Gm7 (example 3); $F^{\sharp o}$ is a secondary dominant [VII] for Gm7.

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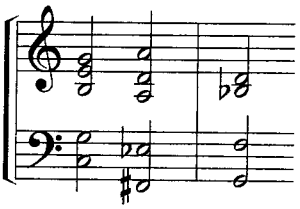

31.5 TR secondary dominant $G^{\flat}7/9/+11$ in example 4 is an approach chord for F△.

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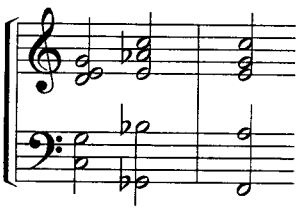

* See also lesson 28.2

31.6 By analogy, the approach chords A♭7 and B♭7 in examples 5 and 6 are TR dominants for respectively G7 and A7. The voice leading in example 5 is, due to the falling lead, somewhat less strict; the number of voices has been varied. This shouldn't worry the student too much. A piano is not like a vocal group with a fixed number of parts (voices).

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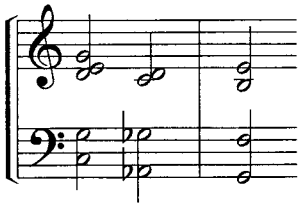

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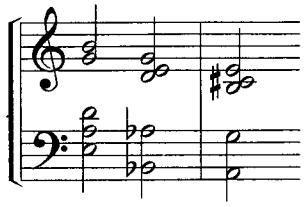

31.7 In example 7 we see a more traditional progression, C7 with 3 (*e*) in the bass is the approach chord here. Also remember: *the* 3 *in the bass of a major chord is preferably not doubled in the upper register.* (See also 28.2)

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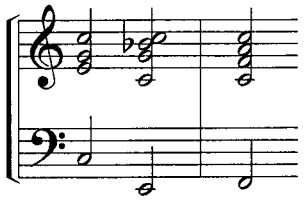

31.8 Example 8 shows a root-positioned dominant 7th chord (E7) as approach chord. In this example, we observe a different resolution of E7.* Instead of falling a 5th to *a*, the bass ascends with a half step to *f*. In traditional harmony, this deviation from the usual resolution of a dominant 7th chord is called a *deceptive cadence*. We actually see V7 → VI in the key of A minor. See 31.11

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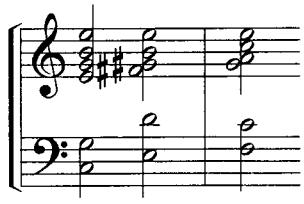

31.9 Example 9 shows a scale-tone approach chord. In this example, FΔ substitutes the passing (embellishing) chord Dm7 between I (CΔ/9) and III (Em7).

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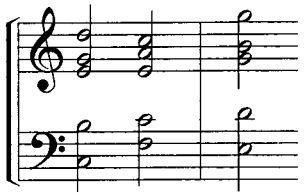

31.10 The approach chord in example 10 is the second inversion of II in C mm: $\frac{4}{3}$ chord of D$^{\varnothing}$ (5 in the bass). It approaches V7 (G7/–9/+11). Compare this progression with the one in example 5.
In example 10 we see a II-V progression, of which the II is an unaccented (on a weak beat) approach chord instead of a suspending chord, which usually appears on a strong beat.

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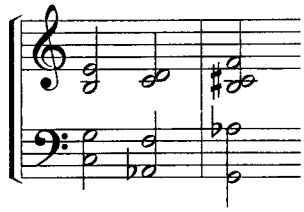

31.11 In the second measure of the song in example 11, the ascending D7/–9/–13 chord precedes the suspension for E♭6. In this example, we see again a deceptive cadence V7 → VI; this time in G minor. D7, which is the secondary dominant for the VI (Gm7) of B♭, resolves deceptively to VI (E♭) of VI. See also lesson 38.20.

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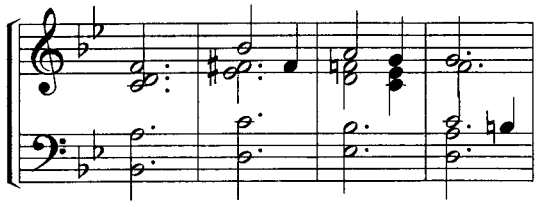
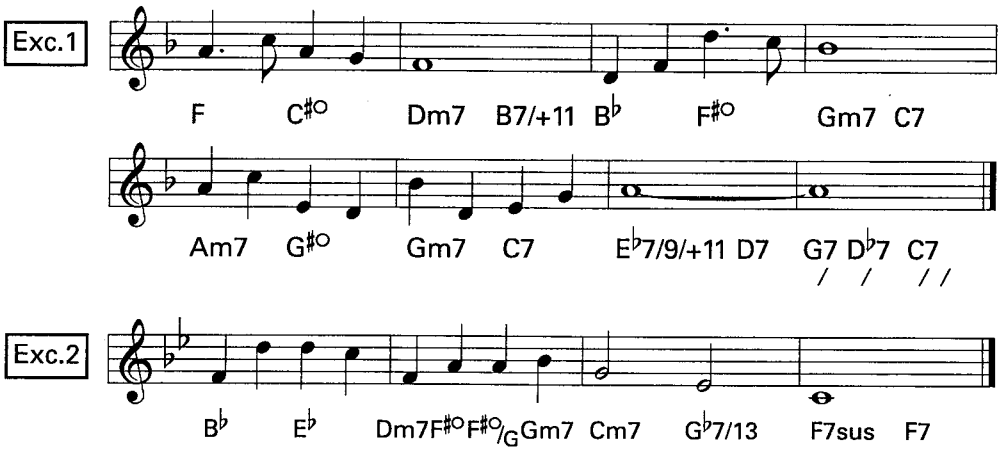


* See the chapter on *Deviations from the usual resolution of the dominant 7th chord* in volume 2.

Exercises:

- ✔ Play the examples in this lesson.
- ✔ In exercises 1, 2 and 3 at the end of lesson 28 find those passing chords which can be substituted by scale-tone approach and alternating chords.
- ✔ Slowly play the following melodies with the chords as written, and distinguish the approach chords.

  Chord extensions appearing in the melody and some colouring extensions have not always been included in the chord symbols. Add those where suitable.



Lesson 32 Leading chords

Leading chords are embellishing chords, which do not exist in traditional harmony. They represent a form of parallel harmony. So far, we haven't met them in the preceding pages. Leading chords played an important role in the harmonies applied in jazz, especially in the forties. This role, although not yet played out, has nevertheless lost part of its novelty. Even so, leading chords are important enough to spend a lesson on them.

In nearly all cases, leading chords are applied for a rather stylish reharmonization of standards, mostly substituting for diminished 7th chords and secondary dominants. Often leading chords are in conflict with the melody, and are therefore mainly applied in chord progressions used for improvisation. We typically hear leading chords in harmonies of pieces specifically composed for jazz.

32.1 A leading chord mainly consists of leading tones, which, as we know, move in descending or ascending half steps. Likewise we talk about descending and ascending leading chords.

32.2 A leading chord can function as a passing, neighbouring (alternating) and approach chord. Sometimes the leading chord is applied as a suspension, in which case it falls on a stressed beat.

32.3 The leading chords can resolve in parallel, oblique and in contrary motion. In the oblique motion only one tone, usually the lead, is static; we can see such a sonority as a *partial leading chord.*

Dominant 7th chords, descending or ascending with a half step, are dominants. Do not confuse them with leading chords.

32.4 Minor and major 7th chords are the most frequently applied leading chords.

32.5 The examples 1–5 show a chromatic passing leading chord between III and II. The same progressions in these examples can also be read from the right to the left II → III. In that case E♭m7 is renamed D♯m7: Dm7 D♯m7 | Em7

32.6 In the examples 2 and 3, the lead moves in contrary motion with the other voices. In example 4, the lead is a neighbouring tone. In example 5 the lead first moves in contrary, and subsequently in oblique motion.

32.7 The entire progression in example 6 moves in oblique motion; the lead (*e*) is static. The progression CΔ→C♯m7 can hardly be considered a leading chord progression; it can normally not be played in the opposite direction.* We should not forget that, as its name already implies, the target to which the leading chord leads is more important than its starting point. The succession of the chords invariably is: arbitrary chord → leading chord → resolution chord, by which the most important tones of the leading chord and its resolution form congruent chords.

32.8 Although the congruence of the chords in example 5, E♭m7/11→D$^{\varnothing}$, is incomplete, we nevertheless call E♭m7/11 a leading chord for D$^{\varnothing}$. Consequently, the reverse is also true. The congruence of the leading chord and its resolution doesn't have to be complete. The chord can be applied as such, as long as the essential tones are present in both. In the examples, we see at least the correspondence of the root, the third, and the seventh. This is normally sufficient to call the progression a leading-chord progression.

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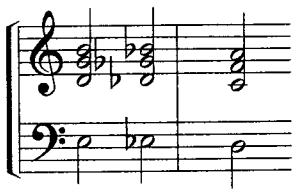

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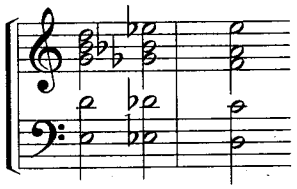

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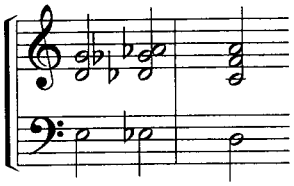

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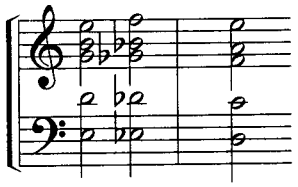

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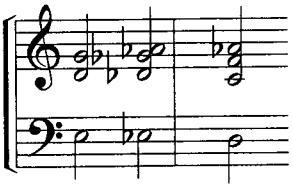

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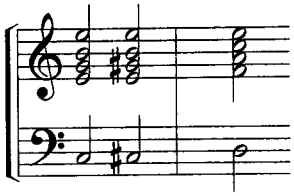
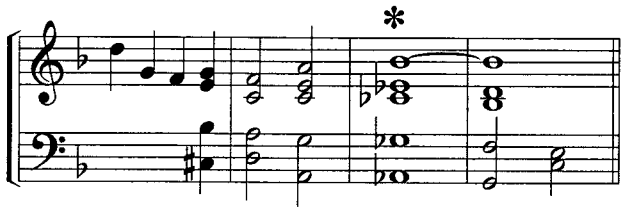


* C♯m7→CΔ is not a complete leading chord progression, however, one may hear it played by pianist Lenny Tristano.

32.9 As said before, leading chords are often applied as a substitute for dominant 7th chords or for passing and approaching diminished 7th chords. In example 1, instead of E♭m7, we could have heard A7/–9 or C♯° under the *b*♭ in the lead. In bars 7 and 8 of JUST FRIENDS, the leading chord A♭m7 fits the melody excellently. It substitutes A♭°, the passing subdominant diminished 7th chord between III en II (example 12).

32.10 Often, leading chords have a distinctive surprise effect. We should keep in mind, however, that the novelty of surprises wears off quickly. Notice the suspending leading chord A♭m7/9 in measures 6-8 of ...MISS JONES shown in example 7 (*).

7

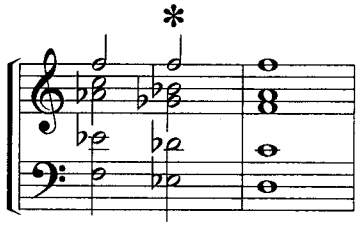


Because the leading chord in this example falls on the first beat of a strong (odd) measure, the chord is rather a suspension for Gm7 than a passing chord between Am7 and Gm7.

32.11 To make up a suitable (surprise-) leading chord under a melody, one should keep in mind that the melody tone we intend to provide with the 'surprise chord' should be a common tone for both the new chord and the original chord under the melody. This requires some skill. In ...MISS JONES, the *b*♭ in the melody is the 3 of Gm7, which is the original chord under the melody. A♭m7 is the descending leading chord. The 9 (*b*♭) of A♭m7/9 is the common tone.

32.12 With oblique motion of a leading chord, the 9 of a **descending leading chord**, in example 8 the *f* in E♭m7/9 (*), becomes the octave doubling of the 3 of the resolution (*f* in Dm7); the octave doubling of the 3 of an **ascending leading chord** – in example 9, the *g* of Em7 (*) – becomes the 9 of the resolution (*g* in Fm7/9).

8



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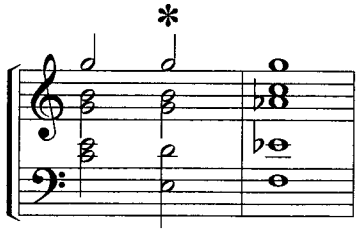

32.13 Also mΔ or m6 chords can be applied as leading chords (example 10). The strong compulsory progression of a leading chord can be such, that a conflicting tone occurring in the lead hardly interferes. See the *b*♭ in Am6 (*).

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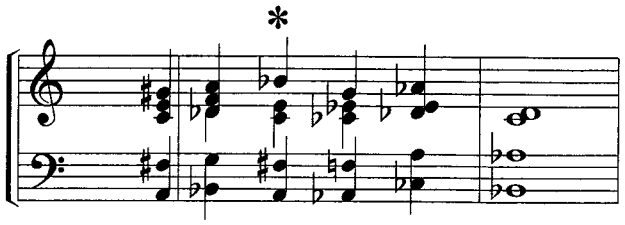
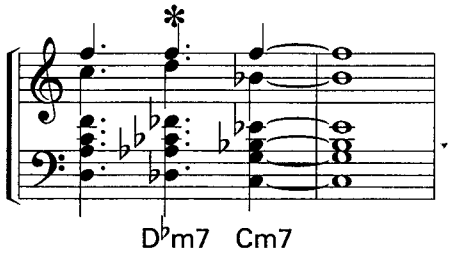


Notice also the leading chord (*) in Jerry Mulligan's ROCKER in example 11 (not easy to play on the piano!). Without a problem, we hear a major third (*f*) in the lead of a minor 7th chord ($D^{\flat}m7$). This phenomenon one often hears in a succession of leading chords. It can give an attractive, rugged character to the progression.

11

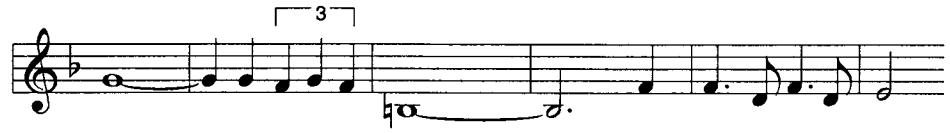


32.14 A minor 7th chord, applied as a descending leading chord, can be seen as a II in a key a half step above the main key. It could be followed by a V^7, or the progression in the new key could be manipulated in an other way. Obviously, time and space have to be available for this procedure. In a ballad tempo, half a bar will probably be sufficient. In a faster tempo, however, the leading chord should last one measure at the least.

32.15 In JUST FRIENDS, mentioned previously (32.9), the leading chord ($A^{\flat}m7$) stays for two bars. Usually, the song is played in a medium tempo, which provides sufficient time for some manipulation.

In example 12, we see under the *b* in the melody of the 3rd and 4th measures, six possible harmonizations :

12



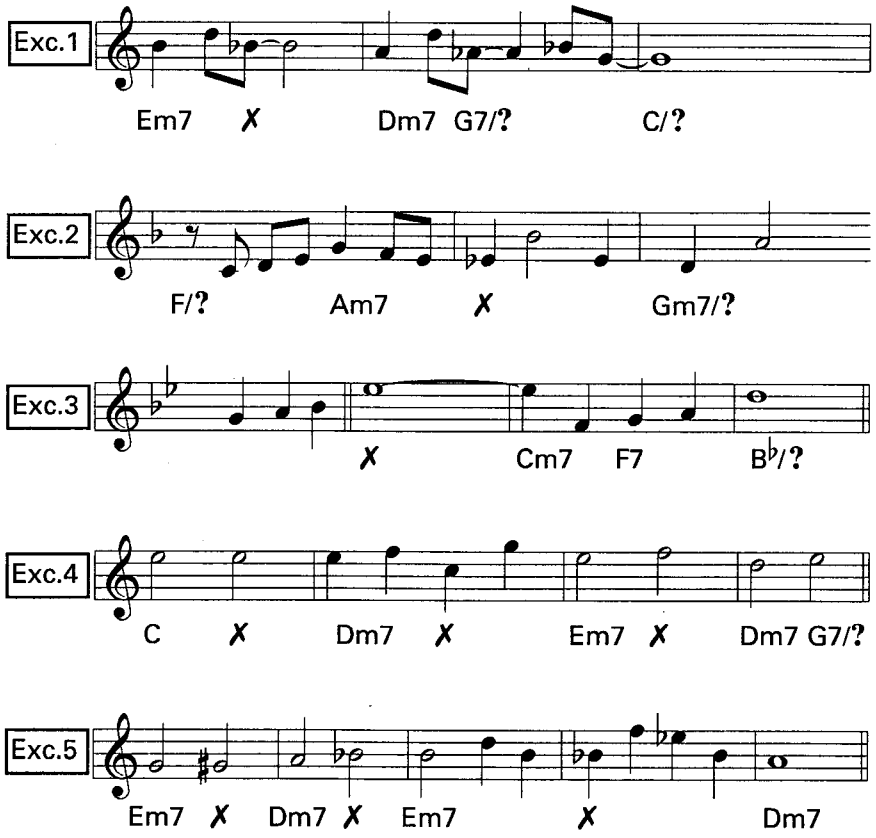
1	Am7	𝄎	$A^{\flat o}$	𝄎	Gm7	C7
2			$A^{\flat}m7$	𝄎		
3			$A^{\flat}m7$	$D^{\flat}7$		
4			$A^{\flat}m7$ $E^{\flat}7$	$A^{\flat}m7$ $D^{\flat}7$		
5			$A^{\flat}m7$ A7/9	$A^{\flat}m7$ $D^{\flat}7$		
6			$A^{\flat}m7$ Am7/9	$A^{\flat}m7$ $D^{\flat}7$		

- ➢ 1: original chords.
- ➢ 2: leading chord $A^{\flat}m7$ replacing $A^{\flat o}$.
- ➢ 3: V^7 ($D^{\flat}7$) added to $A^{\flat}m7$, forming a II–V progression in $G^{\flat}$.
- ➢ 4: alternating chord $E^{\flat}7$(/–9/–13), and added V^7 ($D^{\flat}7$).
- ➢ 5: tritone relation of $E^{\flat}7$(/–9/–13), A7/9 and added V^7 ($D^{\flat}7$).
- ➢ 6: leading chord $A^{\flat}m7$, alternating chord Am7/9 and added V^7($D^{\flat}7$).

For accompaniment as well as improvisation, such reharmonizations can on occasion present lively possibilities, *but don't overdo it!*

Exercises:

- ✔ Play minor 7th chords in root position, with arbitrary voicing, chromatically ascending and descending over at least one octave. Don't forget to listen carefully! Try to gain some fluency.
- ✔ Do the same with m7/9 chords en m7/11 chords. Also with major 7 and major 7/9 chords.
- ✔ Play in the same way a II-V progression chromatically up and down the keyboard.
- ✔ Play all the examples in this lesson.
- ✔ Play following exercises. At the places marked with ✗, insert the appropriate leading chord or/and dominant 7th chord. At the places marked with ?, extend the chords with appropriate colouring tones (extensions and added tones).



In some of these exercises, more then one possibility is applicable.

- ✔ Try to find some more leading chords under the melody of AUTUMN LEAVES. See exercise 3.
- ✔ Try also to find some leading chords in HOW HIGH THE MOON. They should fit under the melody.

- A chord played on the piano is supposed to produce one single sound. Although it is usually played with two hands, it is not made up of a left and a right half. Traditional harmony gives an octave as the maximum distance between the middle voices. In my opinion, on the piano this is already too much. Therefore, the interval between the tone played with the thumb of the left hand, and the one played with the thumb of the right, should not exceed the interval of a sixth, but dividing the voices evenly over both hand sounds still better.

- Unless some of its tones are doubled in a higher register, the voicing of a chord in root position generally sounds best, if the larger intervals are positioned in a lower register than the smaller ones. Therefore, it is preferred to position the second lowest tone at least a fifth or, still better, a sixth, seventh or a tenth over the bass. In many cases, however, this tip is overlooked.

- The seventh and third of a chord sound best in the middle register – i.e. in front of the pianist. If in the melody, they usually are doubled in a lower register.

- The bass of a chord usually is positioned in a register not higher than the *c* of the great octave. Only rarely it reaches *g* small octave. This tone is a fourth below middle *c*. Also to this tip one often pays no attention.

- The 13 of a dominant seventh chord is rarely found directly over the fifth. Often the fifth of a dominant seventh chord is omitted altogether, specifically if the 13 is present.

- The 13 as well as the –13 of a dominant seventh chord are preferably not positioned below the seventh.

- A dim chord usually sounds better, if the added (non-chord) tone in the melody is positioned not directly over a chord tone, as the added tone originally substitutes – suspends – the chord tone. The chord tone, therefore, is much rather omitted. See also the examples in lesson 22.

- In general, the following tones are preferred not to be combined in one chord: –13 or –6 and 5, 13 and +5, and any altered and unaltered tone: 7 and △, 9 and –9, 13 and –13, etc. The only exception is the combination of –10 and major third, with the remark that 3 should be below –10.

- In a root-positioned chord the 9 is usually not directly over the octave doubling of the root tone. Besides, the 9 as colouring extension is not always appropriate. The harmonic function of the chord tends to get obscured, due to the occurrence of an interfering triad in the chord's upper-structure, if the 9 is the highest tone below the lead and the bass is in too high a register. It is usually prefered in those cases, to lower the bass or replace the 9 by the 3.

CHAPTER 7 ALTERATIONS AND ALTERED CHORDS

In the previous lessons we already met a number of chords in which altered tones were present, e.g. secondary dominants, diminished 7th chords on ♯II and ♯IV, dominant seventh chords with –5 and +5, tritone related dominant 7th chords and some non-scale tone extensions of chords such as +11 and +9.
In this chapter we will discuss the theoretical justification of altered tones and chords in general, and the application of alterations that we haven't met so far.

Lesson 33 Alterations in general

33.1 *An alteration is a scale tone which is chromatically raised or lowered.*

There are three reasons for altering a tone or a chord:

(1) to bring in a leading tone
(2) to colour a chord or sonority
(3) to change key in a modulation or a tonal excursion

These reasons can overlap or supplement each other.

The root or any other tone of a scale-tone chord, except the root tone of the tonic (see 33.5), can be altered, thus forming an altered chord. An accidental chromatic embellishing tone (passing tone, neighbouring tone etc.) in one of the voices, however, doesn't necessarily result in an altered chord.

Any altered triad and 7th chord, except for the ones already inverted (e.g. Neapolitan sixth chord, etc.), can be inverted. We will notice, however, that some inversions of altered chords are more frequently used than others and that not all altered chords are equally common.

33.2 A chord can be an altered chord in one key, while in another key the same chord is composed of scale tones, i.e. tones belonging to the key in which it occurs unaltered. In this context the key includes major, minor and minor-major (mixture).
For instance, $D^{\sharp o}$ is an altered chord in the key of C (♯II) and a scale-tone chord (VII^7) in E minor. B7 is an altered chord on VII in the key of C, and a scale-tone chord on V in E major.
Some altered chords do not belong to any key. For example, a dominant 7th chord on V with a diminished fifth, or a diminished 7th chord on ♯II or ♯IV with a diminished third include non-scale tones in any key.

33.3 Some are inclined to consider tones borrowed from minor as alterations instead of tones belonging to the extended major key. This has resulted in the use of the abbreviated symbol G7*alt* instead of the notation G7/–10/–13. This chord is composed of scale tones derived from C minor; alterations are not present. Therefore, we prefer to speak of V^7, extended with –10 and –13 from or borrowed from C minor, or in short, extended V^7 from minor.

Chords applied in major, in which tones occur from parallel minor or minor-major, are usually not considered altered chords.

We will maintain the custom to speak of 'borrowed from minor', if tones derived from minor occur in a major key, and of 'minor-major' chords or chord progression, if these are derived from minor-major.

33.4 At times, one encounters a chord or chord progression for which the harmonic analysis is ambiguous. For example, D7 in the key of C major can be seen as secondary dominant for V (double dominant), as altered subdominant or simply as an altered chord on II.
B7/-9/D♯ → C/E can be seen as V7→VI in E minor, or as altered VII§→I6 or ♯II→I6, in C major. All points of view are correct and applicable. Only the context will decide which interpretation is best suited.

33.5 It is common practice to regard a chord in which an altered tonic (*finalis* of the scale) occurs, as not belonging to the key. These chords are seen as secondary dominants, usually for II. For instance, A7 and F+ are no altered VI and IV in C, but regarded as secondary dominants, respectively [V7] and [III] for II. In both chords the *c* (tonic) has been raised to *c*♯. The only exception to this rule is the dominant 7th chord on V extended with +11, e.g. G7 extended with *c*♯ in the key of C. In this chord we find a discrepancy between the western tonal system and the overtone series.*

In the summary below we see a number of altered chords which are more or less common in jazz. They will be separately treated in the following lessons of this chapter. We will also go into various aspects of the augmented triad and will meet the octotonic scale and the octotonic tone system, both resulting from the diminished 7th chord.

33.6 **Altered chords most applied in jazz**

(1) Neapolitan sixth chord. Lesson 34.1-2.	♭II6	Major triad of lowered II. The 3 is in the bass and should be doubled.
(2) 7th chord of lowered II. Lesson 34.3.	♭II7	Major 7th chord (△) on the lowered II.
(3) Raised II7. Can be inverted and is often heard in its first inversion (§). Lesson 35.	♯II7	Usually this is a diminished 7th chord; root and 3rd of II are simultaneously raised. The chord also occurs with only the root raised, forming a diminished 7th chord with diminished 3rd.
(4) Raised IV7 in major, minor and minor-major. The chord can be inverted. Lesson 36.	♯IV7	In major this is a half diminished 7th chord (ø), in melodic minor a dim chord (°) and in aeolic and harmonic minor a dim chord with diminished 3rd. The root position in mm has no name.
(5) Augmented-six five chord (first inversion) of ♯IV7 in minor, and mm.***	♯IV♯§	In jazz this frequently used chord is mostly interpreted as TR** double dominant (see 26.4 and 26.6); if followed by a tonic, it functions as subdominant. See also lesson 36.

* See for more information volume 2, *The mystic chord.*

** TR reads as tritone-related.

*** In ♯§, ♯6 means an interval of an augmented 6th over the bass.

(6)	Augmented-four three chord of V.	$V^{\sharp 4}_{3}$	In jazz the second inversion of V^7 with –5 (in the bass) usually is interpreted as TR dominant with 5 omitted, extended with +11. See 24.5-6.
(7)	Seventh chord on V with an augmented fifth.	$V^{7\sharp 5}$	In jazz its first inversion (3 in the bass) is frequently used. See 37.5.
(8)	Augmented-six five chord of VII. See 25.7 and lesson 37.	$VII^{\sharp 6}_{5}$	In jazz this inversion usually is interpreted as TR dominant. It is derived from minor and mm. The variant from major is treated in 25.7.
(9)	Double augmented-four three chord of VII.	$VII^{\times 4}_{3}$	Diminished 7th with double diminished fifth in the bass. For its application in jazz see 34.4.

In jazz mainly 7th chords are used. Therefore, the altered triads from traditional harmony will not be discussed in this chapter. An exception is made for the Neapolitan sixth chord discussed below, and for the augmented triads which will be treated in lesson 38 and the appendix in volume 2.

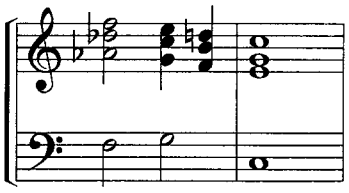
Lesson 34 Neapolitan 6th, $^{\flat}II^7$ and $VII^{\times 4}_{3}$

From the alterations mentioned in above summary (33.6), the traditional form of the Neapolitan sixth chord (1) is the least applied in jazz music.

The double augmented $^{4}_{3}$ chord on VII (9), slightly varied and enharmonically changed, can be heard a little more frequently. For the sake of completeness, an illustration of the use of both chords will be included in this lesson.

34.1 The Neapolitan sixth chord in example 1 is a major triad on the lowered II. As the 3 normally is in the bass, the term «sixth» has been added to its name. In traditional harmony, although doubling of the third of a major triad is usually avoided, the third in the bass of a Neapolitan sixth, which is also the root of the primary subdominant (IV), is doubled.*

1

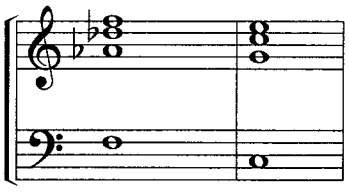


SD D T

34.2 A Neapolitan sixth has subdominant function. Therefore, it is usually followed by a dominant, either suspended or not (example 1). A plagal progression to the tonic, however, is certainly not impossible (example 2).

For a number of songs played in jazz, $^{\flat}II$ functions as pivot chord** in a transition to another key. In that case, $^{\flat}II$ usually is a major 7th chord (Δ) in root position (2).

2



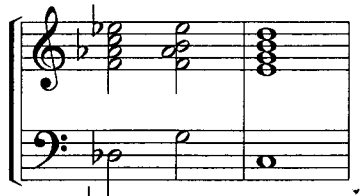
SD T

* Notice the conditional dissonance of a minor 6th between the bass and the root of a Neapolitan sixth chord.

** A pivot chord has a harmonic function in both keys of a modulation or tonal excursion.

➤ We hear the major 7th chord on ♭II in bars 5 and 6 of ALL THE THINGS YOU ARE, in the transition from A♭ to C (example 3).
In A♭: IV→[V7]→[I], or in C: ♭II7→V7→I (major). In the transition from A♭ to C, D♭Δ functions as pivot: IV in A♭ and ♭II in C where ♭II is borrowed from altered C minor (Phrygian). In bars 13 and 14 of the same song the transition from E♭ to G goes analogous.

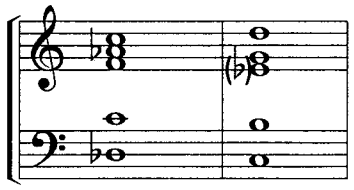
3



D♭Δ/9 G7/-9/-13 CΔ/9
In C: SD D T

34.3 The major 7th chord (Δ) on ♭II can also substitute as subdominant for the tritone-related dominant. For instance in the turn around borrowed from minor*, D♭Δ can substitute for D♭7 in its resolution to C major or minor. See the plagal progression D♭Δ→C(m)/Δ/9 in example 4. In the last bar of the first and last 8 bars of Thelonious Monk's PANNONICA, we can hear D♭Δ applied as suspension for I. We hear: G7→D♭Δ || CΔ (=V7→♭II7→I).

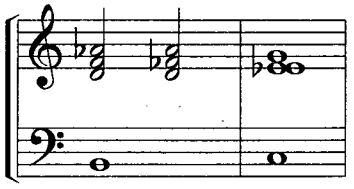
4



D♭Δ/9 C(m)Δ/9

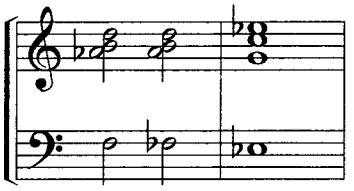
34.4 The examples 5 and 6 show a rather uncommon altered chord. On the third beat of the first bar in example 5 we see a diminished 7th chord with a double diminished fifth ($f^{\flat\flat}$). In example 6 this tone is in the bass (VII$^{\circ 4/3}$). Enharmonically changed, it gives an E7 chord resolving to C minor with a doubled third ($e^{\flat}$). In this form the chord is not frequently heard in jazz, but in some respect, it is similar to E7→A$^{\varnothing}$(/E♭)→D7→GΔ (example 7) in which E7 → A$^{\varnothing}$ is a common progression.**
The emergence of E7 (enharmonized) in examples 5 and 6 can also be seen as the result of voice-leading activity: $f \searrow f^{\flat} \searrow e^{\flat}$.

5



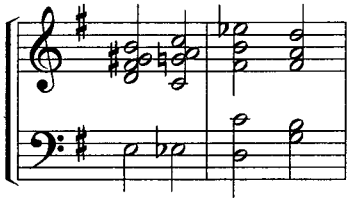
F$^{\circ}$ **E7/B**(*enh.*) **Cm**

6



F$^{\circ}$ **E7**(*enh.*) **Cm**

7



E7/9 A$^{\varnothing}$/E♭ D7 GΔ/9

Exercises:

✔ Play the examples.

✔ Make a descending sequence of example 4 as given in the following model:
D♭Δ Cm | BΔ B♭m | AΔ A♭m, etc.

✔ Make a sequence of:
E7/9 A$^{\varnothing}$/E♭ | D7/9 G$^{\varnothing}$/D♭, etc. (see also example 7).

---

* E.g.: C E♭7 | A♭Δ D♭Δ || CΔ | See the chapter on turnaround in volume 2.
** In the A-parts of Dizzy Gillespie's WOODY'N YOU one can hear: G$^{\varnothing}$→C7→F$^{\varnothing}$→B♭7, etc.

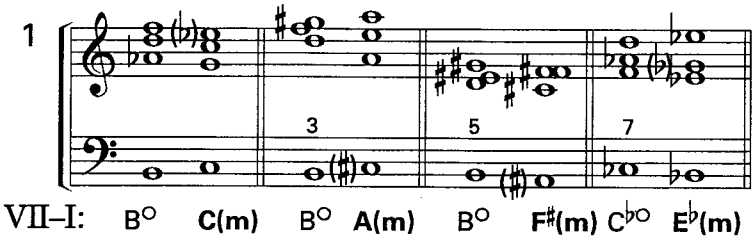
Lesson 35 Diminished 7th chords and octotonics

In lesson 22 we met the diminished 7th chord, applied as secondary dominant. In lessons 29, 30 and 31 we discussed its role as passing, approach and alternating chord on the raised II and raised IV (♯II and ♯IV). We met the dim chord in the upper structure of the dominant 7/–9 chord and we learned about its symmetrical appearance. The diminished 7th chord can occur as scale-tone chord on VII as well as a non-scale-tone chord, on ♯II with altered (raised) root and 3rd, and on ♯IV with altered (raised) root. See (3) and (4) in summary 33.6.

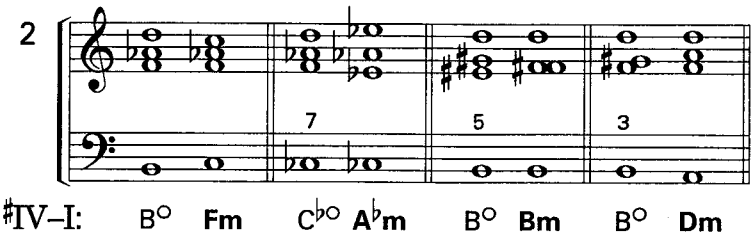
35.1 By means of enharmonic change, the dim chord divides the octave in 4, and 2 apparent equal parts; 4 minor thirds and 2 tritones. This apparent symmetry makes it impossible to identify – outside the harmonic context – its inversions from the sound. This quality, and the fact that each key possesses three different dim chords, i.e. VII^7 in minor and mm, ♯II^7 in major and ♯IV^7 in minor, gives the same dim chord, after enharmonization, a function in eight minor and eight major keys. The dim chords of ♯II^7 and ♯IV^7 are each others apparent (enharmonic) inversions; the two sound alike. See example 1-3.

35.2 Only the augmented triad, which has a similar symmetrical appearance, can rival the speed of the dim chord in implementing a modulation or tonal excursion; in one step, two at the most, the new key is reached.

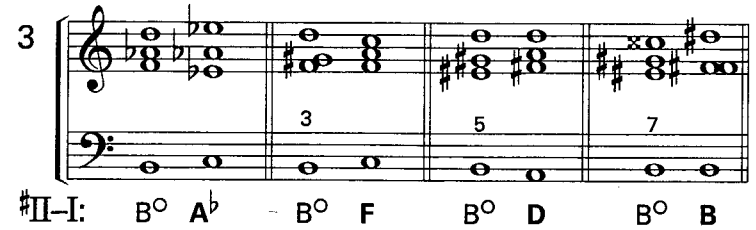
Example 1 shows the resolutions of B$^\circ$ (C♭$^\circ$) in 4 minor or 4 major keys (mm). The same dim chord resolves in another 4 minor keys in example 2 and in 4 more major keys in example 3. We see the dim chord as VII in example 1, as ♯IV in example 2, and as ♯II in example 3. The first bar in the examples



VII–I: B$^\circ$ **C(m)** B$^\circ$ **A(m)** B$^\circ$ **F♯(m)** C♭$^\circ$ **E♭(m)**



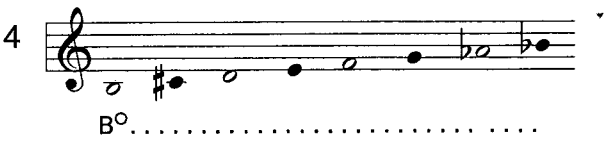
♯IV–I: B$^\circ$ **Fm** C♭$^\circ$ **A♭m** B$^\circ$ **Bm** B$^\circ$ **Dm**



♯II–I: B$^\circ$ **A♭** B$^\circ$ **F** B$^\circ$ **D** B$^\circ$ **B**

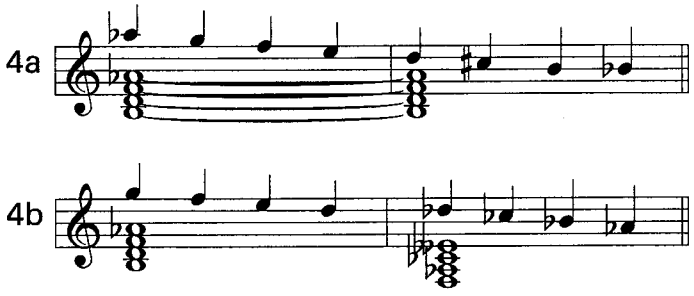
shows B° in root position; in the remaining bars we see its inversions, in which the *b* occasionally has been enharmonized to $c^{\flat}$. This *b* ($c^{\flat}$) can be the third (3), fifth (5) or seventh (7). All together, the same dim chord B° has a function in eight different major and minor triads. A versatile chord indeed!

35.3 The *octotonic scale* (also called *dim scale*) is another result of the seemingly symmetrical appearance of the diminished 7th chord. This scale is formed by inserting ascending leading tones between the chord tones of the dim chord. See example 4.

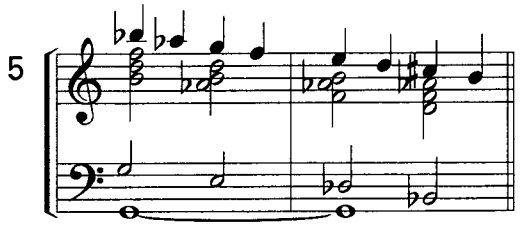


35.4 Every tone of the scale sounds in concordance with its dim chord played underneath. This would not be the case if *c*, $e^{\flat}$, $g^{\flat}$ and *a* were inserted instead of the tones given in example 4, as these tones would form intervals of a minor 9th with the chord tones of the dim chord. In lesson 27, we learned that this interval is a strong dissonant when occurring in a chord. It would certainly not result in concordance of the scale tones with the accompanying dim chord; the main reason for the popularity of the scale.

35.5 In example 4a the scale starts on the 7th of the dim chord; in example 4b on a suspension (accented non-chord tone) for the 5th of the dim chord. In the latter example the scale is divided into two halves which are a tritone apart: B° in the first bar, and in the second bar the enharmonically changed inversion of B°, in this case written as F°. The scale tones on F° equal the first 4 tones of the scale transposed a tritone down. The scale relates to dominants, e.g. the first bar played on G7 and the second bar played on the tritone-related dominant $D^{\flat}7$ in the keys of C and $G^{\flat}$ respectively. The dim chord can resolve to either key, which are also a tritone apart. The tone system, which originates from the diminished 7th chord and the octotonic scale (dim scale), is called *octotonics*.*



35.6 The upper stave in example 5 shows the inversions of B°, with in the lead the octotonic scale, made out of suspensions and chord tones. The *g* in the bass, sustained for two bars, forms, together with the root (*b*) and the third (*d*) of the dim chord, a major triad. This sustained *g*, root of the G triad, is called the *fundament (tone)* of B°. Due to its symmetrical appearance, the dim chord possesses four of these fun-



* See also volume 2: *The circle of fifth, the axis cross and octotonics.*

dament tones. They are written in the lower stave of the example as half notes, above the sustained *g*: *g*, *e*, $d^{\flat}$ and $b^{\flat}$. Together with the three chord tones from the dim chord, written as half notes in the upper stave, the four fundament tones form four (enharmonized) dominant 7th chords which are a minor third apart: G7, E7, $D^{\flat}7$ and $B^{\flat}7$. These four dominant 7ths form the (octotonic) *dominant family* of B^{o}, and, as a consequence of symmetry, also of D^{o}, F^{o}, and $A^{\flat o}$ ($G^{\sharp o}$). The corresponding *tonic family* consists of the major and minor chords of C(m), A(m), $G^{\flat}$(m) or $F^{\sharp}$(m) and $E^{\flat}$(m), a minor third apart as well.

35.7 The upper stave in example 6 shows the same diminished 7th chords as example 5 in ascending order. In example 6, however, they are provided with different fundament tones from the corresponding dominant family.

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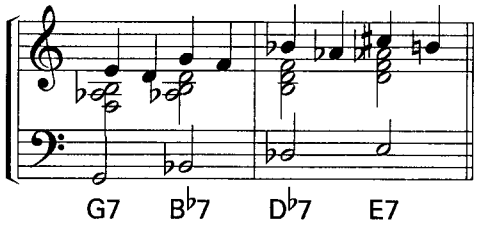

On the relative strong beats we see: G7/–9/13, $B^{\flat}$7/–9/13, $D^{\flat}$7/–9/13 and E7/–9/13. Each of the chords in the upper stave can be provided with anyone of the four fundament tones and corresponding chord symbol. Occasionally, one of the chord tones, 3, 5, 7, or –9, is suspended (example 6), or substituted in the lead by the suspension (example 7).

35.8 The four fundament tones by themselves form a diminished 7th chord which is a half step below (whole step above) the original dim chord. These fundament tones are also the extensions of the dim chord within the octotonic tone system, although not necessarily within the key and mode in which the dim chord occurs. We must therefore keep in mind that not all of the tones of the octotonic scale apply to a single key. Consequently, one should be cautious not to extend the dim chord indiscriminately, just for the sake of colouring, with tones from the octotonic scale. This applies especially to the suspension for the root of the dim chord, e.g. $c^{\sharp}$ in B^{o}, which can be out of place within a tonal context.

35.9 Example 7 shows the octotonic extensions of G7/–9. These are: 13 (*e*), –10 ($b^{\flat}$) and +11 ($c^{\sharp}$). The final chord is made up of B^{o} and its four extensions, over its fundament tone *g*, which forms: G7/–9/–10/+11/13. We see the superimposed diminished 7th chords F^{o} and E^{o}, with *g* in the bass.

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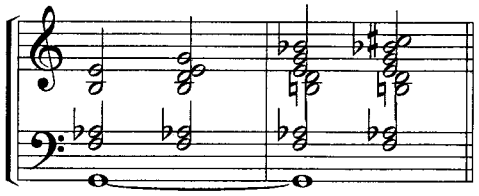

35.10 Example 8 shows the inversions, or rather transpositions by a minor third, of $D^{\sharp o}$ with two suspensions,

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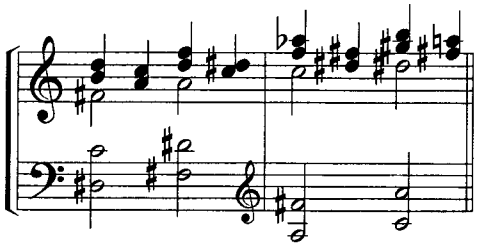


i.e. *b* for the 5th (*a*) and *d* for the 7th (*c*). This succession of chords, after elaborate enharmonic change, can be seen as ♯II in C, E♭, F♯ (G♭) and A, and ♯IV in C minor, E♭ minor, F♯ minor and A minor, and VII in E, G, B♭ and D♭. This example also shows that in some of these keys, the given dim chord extensions are somewhat out of place.

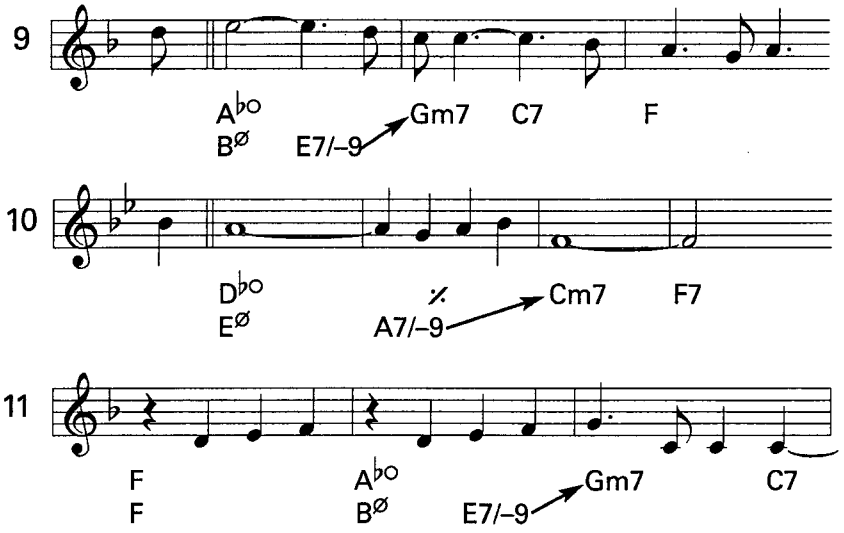
To go any deeper into the fairly extensive area of the octotonic tone system would exceed the scope of this jazz harmony method. On some of its aspects, however, we will come back in the following lessons.

35.11 In lesson 32 we came across the practice of replacing diminished 7th chords with leading chords. Also the II-V progression is often used to substitute the dim chord. For the latter substitution, a fundament tone is placed below the dim chord, thus creating a dominant 7th chord. Next, the dominant 7th is suspended by the corresponding minor 7th chord.

Well-known examples from the repertory of standards where this practice is applied are, among others: ALONE TOGETHER, STELLA BY STARLIGHT and EMBRACEABLE YOU. In these songs the subdominant dim chord is replaced by a secondary II-V progression for III, but instead, unexpectedly, a II follows. Besides a different harmonization of the melody – the '*changes*' – this practice mainly serves improvisation purposes, as the II-V progression gives the improviser more insight in the corresponding key and its tone material than the diminished 7th chord does.

35.12 Examples 9-11 show melody fragments of the songs mentioned in 35.11, in which the dim chord is substituted by a II-V progression.

In example 9, E7/–9 is created by placing a fundament tone *e* below the A♭o chord; this dominant 7th chord is suspended by B∅ and a II-V progression in A minor is created. E7/–9 does not adequately link up with Gm7 in the next bar. Therefore, we may assume that the change has been mainly created for improvising purposes instead of for harmonizing the melody. By analogy, also the dim chords in the examples 10 and 11 are replaced by II-V progressions.



35.13 In the preceding examples the diminished 7th chords A♭° and D♭° are not in root position. If this would have been the case, the diminished 7th of the chords, i.e. the *g*♭♭ and the *c*♭♭, would have been very unusual tones in the keys F and B♭ of the melody fragments. These tones do not normally occur in these keys; they are simply called *f* and *b*♭. In the examples, therefore, the diminished 7th chords are from the raised IV^th degree with the 7 in the bass (♯IV2). We see B° with *a*♭ in the bass in examples 9 and 11, and E° with *d*♭ in the bass in example 10.

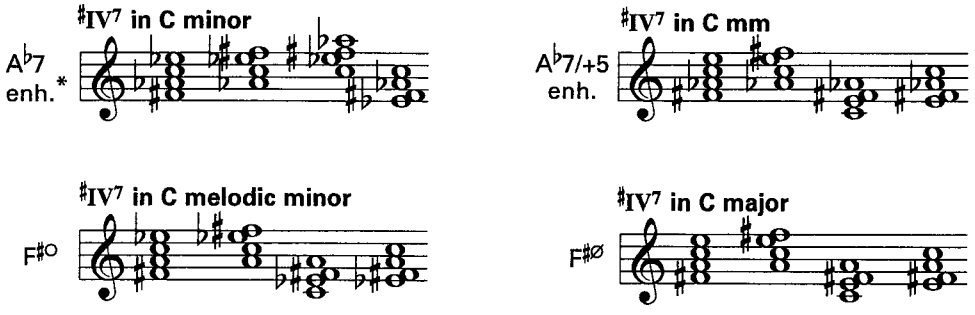
We may conclude that naming the diminished 7th chord after the bass instead of its root tone, is not really a useful custom for a good understanding of its harmonic function.

Exercises:

- ✔ Play the examples slowly on the piano and try to comprehend them fully.
- ✔ Close example 8 in as many keys as possible, as has been shown in the examples 1-3.
- ✔ Sing the melody of examples 9-11, and play, in some different ways, the accompanying chords.
- ✔ Play all the fundament tones of C° and C♯°.
- ✔ Find and play the appropriate octotonic scales of the dim chords in the preceding exercise.

Lesson 36 Alterations of the 7th chord on IV

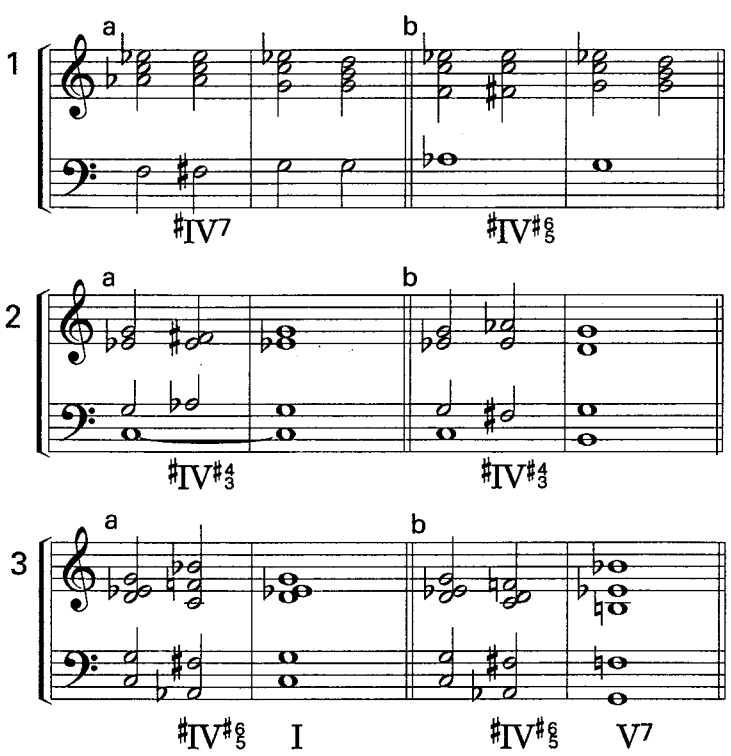
In the foregoing lessons we have met alterations of IV7, exclusively originating from minor. See also (4) and (5) in summary 33.6. We came across the dim chord and, although not explicitly mentioned, the augmented 6 chord on ♯IV in a progression such as A♭7→G7→C, presented as tritone-related double dominant (see lesson 26.4). In this lesson we will look into its harmonic background and will also discuss the application of ♯IV7 originating from major and mm. Furthermore, we will become acquainted with the concept of *cancelled alteration.*



* 'enh.' means: enharmonically changed.

36.1 Raising the fourth tone of the scale brings in a leading tone for 5, which is, among other things, the fifth of the tonic and the root of the dominant. The raised fourth tone of the scale can be positioned in the bass, in the lead or in the middle voices of the chord.

36.2 Examples 1 and 2 show the traditional, and example 3 some jazz progressions of ♯IV7 to V and I, in C harmonic minor.



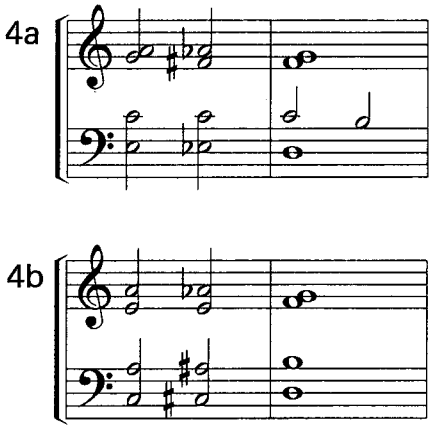
➤ In example 1 the dominant is suspended by the $^{6}_{4}$ chord of I ($Cm_{/G}$).

➤ In example 2a ♯IV$^{\sharp 4}_{3}$ (5 in the bass) resolves, as alternating chord, directly to I in root position; in example 2b, as approach chord, to V with 3 in the bass.

➤ Example 3 shows two of many applications of ♯IV$^{\sharp 6}_{5}$ in jazz: in example 3a the chord resolves to the tonic and in example 3b to the dominant. Enharmonized we see: A♭7→Cm and A♭7→G7.* See also 36.5.

36.3 When the third ($a^{\flat}$) of ♯IV7 is replaced by *a*, the chord originates from C melodic minor and the frequently used dim chord ($F^{\sharp o}$) on ♯IV is formed.

36.4 Example 4a shows ♯IV7 as passing chord with the 7 ($e^{\flat}$) in the bass. We may recognise a ripe evergreen.



➤ Example 4b shows the original harmonies of the composer under the melody. We see $C^{\sharp o}$ of which the *g* is substituted by the passing tone $a^{\flat}$ that resolves externally to the root of G7. In this example, $C^{\sharp o}$ is secondary *sub*-dominant, i.e. ♯II$^{6}_{5}$ in G, for V$^{4}_{3}$ in C. It is interesting to see how a simple melody can have rather complicated harmonic consequences.

36.5 In jazz, where the avoidance of parallel motion of certain intervals is followed less stringently, ♯IV7 with the diminished third ($a^{\flat}$) in the bass ($^{6}_{5}$) usually re-

*Example 1-3 can also be in minor-major, in which case the $e^{\flat}$ becomes *e*.

solves directly to V7 (see example 3b). Enharmonically changed ♯IV7 is named after a dominant 7th chord on the lowered VI. For example, in the key of C, the *f*♯ is seen as *g*♭ and ♯IV♯6/5 is given the chord symbol A♭7 in which the 7th, *a*♭-*g*♭, in reality is an augmented 6th (*a*♭-*f*♯). This custom is a practical, and for our purpose adequate simplification, although not quite in accordance with the rules of traditional harmony. See also lesson 26.4.

36.6 Ambiguity of harmonic function of chords has been mentioned in 33.4. Especially the harmonic function of an altered subdominant, i.e. a subdominant chord in which the raised fourth tone of the scale occurs, is ambiguous. Depending on the context, these subdominant chords can just as well be seen as secondary dominant for the dominant (double dominant).

Only if a seventh chord on ♯IV is followed by a tonic, or by another subdominant, usually derived from minor-major as shown in example 6, ♯IV exclusively is a genuine subdominant. In this progression the alteration of the fourth scale tone is cancelled in the following chord. We call this a *cancelled alteration.*

In case ♯IV7 is followed by a dominant, either suspended or not, the chord function is ambiguous and can be seen both as double dominant and as altered subdominant. See examples 5 and 9.

A third possibility is that ♯IV7, originating from major, functions as a II7 in a secondary II-V progression for III (see example 7), becoming part of a tonal excursion or modulation.

➤ Example 5 shows F♯ø as ♯IV7 in C major. It can be seen functioning as secondary dominant for the suspended V, i.e. ♯IV7 is double dominant in C major. It can be compared with D7 with a silent bass.

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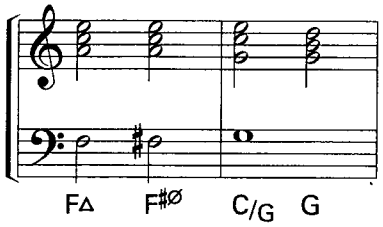

This progression can also occur in C minor. In that case we hear:

Fm7→ F♯o→Cm/G→G(7)

The root as well as the 3 of IV are raised.

➤ In example 6 the mm subdominant follows ♯IV7*. We see FmΔ→Fm6 resolving to the sixth chord of the tonic. This example shows a plagal progression: subdominant → tonic.

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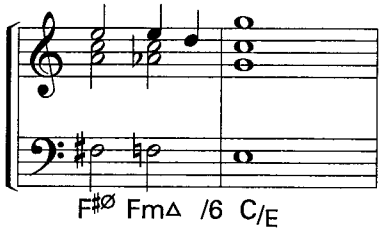


The following variation of example 6 can be frequently heard too:

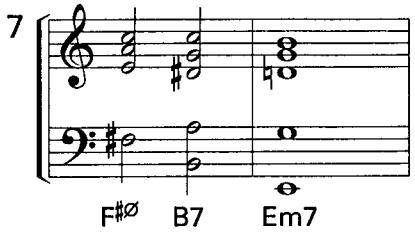
F♯o(→Fm7)→Fm6→Cm/E♭ or →C/E

36.7 In example (6) the alteration of the root of ♯IV7 is cancelled. The raised fourth tone of the scale (*f*♯) in the bass of F♯ø becomes scale tone (*f*) again in FmΔ.

We can hear such cancelled alteration in a dominant chain too: the 3 of the

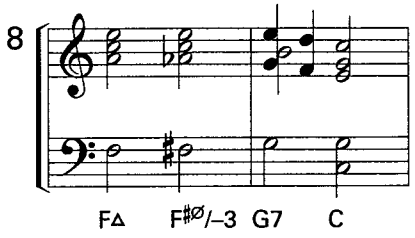
*In my classes I am used to call this frequently applied progression (F♯ø→FmΔ or m6) the 'two faces of IV'

first dominant 7th chord resolves to the 7 of the next one. E.g., in D7→G7 the $f^{\sharp}$ of D7 resolves to the *f* of G7. See also lessons 25.



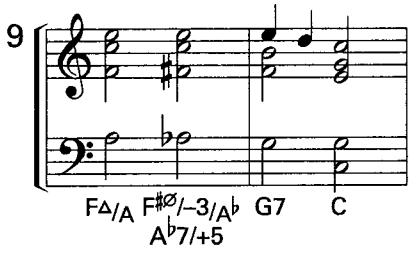
36.8 Example 7 shows the secondary II-V progression to III (Em7) in C major.

$F^{\sharp\varnothing}$ is pivot chord between C and E minor or E mm; it is $^{\sharp}IV^{7}$ in C and also II in E minor or E minor-major.



36.9 $^{\sharp}IV^{7}$ can also originate from minor-major. The 6th tone of the major scale is lowered; instead of *a* we hear $a^{\flat}$.

In examples 8 and 9 we see the rather uncommon chord symbol $F^{\sharp\varnothing}/-3$. In jazz music the chord in this position is seldom heard. The same chord, on the other hand, with the diminished third ($a^{\flat}$) in the bass, i.e. $A^{\flat}7/+5$ in example 9, we hear quite frequently (see also lesson 26.6). It is a double dominant, as well as an altered subdominant, functioning as dominant preparation; the alteration $f^{\sharp}$ is cancelled and becomes 7 (*f*) of G7.



Exercises:

✔ Play all examples of this lesson.

✔ Play the following chord progressions:

✘ $B^{\varnothing}$ $B^{\flat}$m6 |Am7 D7 | G7sus G7 | C7sus C7 ||

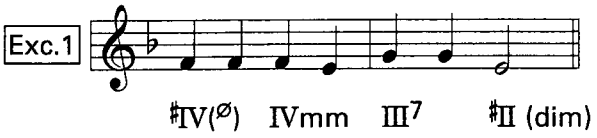
✘ $D^{\varnothing}$ $D^{\flat}$m6 |Cm7 Fm7 | $G^{\varnothing}$ C7 | Fm7 $B^{\flat}7$ ||

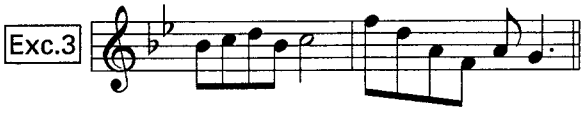
In which key are the first 2 bars of these progressions?

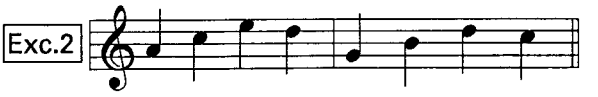
✔ Play the melody of the exercises 1–4 together with the chords as given in exercise 1.

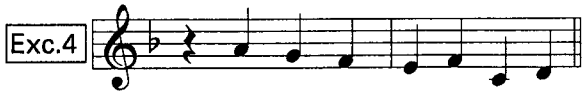
Pay attention to the different keys! In Exercise 4 the chord changes on the fourth beat of bar two.

✔ Transpose the exercises to keys of nearby tonalities.







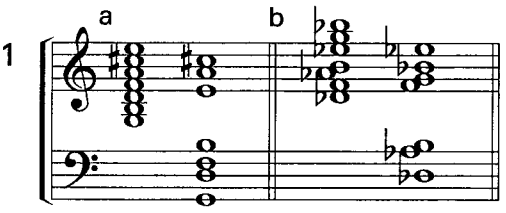


Lesson 37 Alterations of dominant 7th chords

The alteration of the dominant 7th chord, encountered in lesson 24.5, concerns an alteration of V7, where the altered chord tone, the lowered 5, is in the bass. This converts the common dominant 7th chord into its tritone-related counterpart (7/+11). It forms an augmented $\frac{4}{3}$ chord of V. See (6) in the summary 33.6. Furthermore, in lesson 25.7 we discussed the alteration of VII7. This alteration also converts the VII7 into a TR dominant 7th chord. See (8) in the summary 33.6. The altered tone in both of these altered dominant chords is a descending leading tone for the root of the tonic (the second tone of the scale is lowered) or, if applied as secondary dominant, for the root of the adjacent tonic. Since the sound and some other characteristics of TR chords are identical to those of common dominant 7th chords, we call the altered V7 as well as the altered VII7, for the sake of simplicity, 'TR dominant 7th chords'.

In this lesson we will discuss the difference between the +11 and the –5, and between the +5 and the –13. We will also meet two scale-tone 7/+11 chords.

37.1 Example 1a shows two positions of the same extended G7 chord: as a construction of superimposed thirds, and in an arbitrary mixed position.



Example 1b shows the superimposed thirds construction of an extended D♭7, with $c^{\flat}$ enharmonized and written as *b*, in a close as well as a mixed arbitrary position.

In the key of C major the +11 ($c^{\sharp}$) of G7/9/+11/13 (see 1a) is a colouring extension of V7, while the +11 (*g*) of D♭7/9/+11/13 (see 1b) is in fact the root of an extended altered G7 chord, originating from C minor, with its –5 ($d^{\flat}$) in the bass.* For the sake of simplicity, both chords are identified as dominant 7th chords, extended with, among others, the +11; the first (G7) as V7 in C and the latter (D♭7) as the tritone relation of the first, also in C, major or minor.

The +11 should not be confused with the –5. Both belong to an altered dominant 7th chord on V. The –5 of V7 occurs in or over the bass and usually resolves descending stepwise. The +11 of V7 is mostly heard in the upper register of the chord, resolving upwards, internally as well as externally, or keeping its place. See also lesson 13.10, 14.8 and 14.11.

As could be seen in lesson 25.11 and 25.13, the –9 is usually avoided as extension of the TR dominant 7th chord. This avoidance of the –9 is entirely justified when we consider that this –9 is precisely the unaltered fifth of V7, as well as the unaltered third of VII7, the tone which is altered in the tritone substitute. With a few exceptions, the ear normally protests when an altered tone and its unaltered counterpart are both present in the chord. See also lesson 27.21.

* As the 7/9/+11 chord consists of the 4th up to and including the 11th harmonics of the overtone series, the ear perceives the chord more or less as consonant. If the 7/9/+11 chord is on V, the root tone of the tonic, i.e. the +11, is altered. This presents a conflict between the laws of acoustics (the overtone series), and the laws of traditional harmony. In volume 2, in the lesson on *The overtones, the superimposed triads, and the 'Mystic chord'*, this problem will get more attention.

37.2 Examples 2 and 3 show the +11 applied as colouring extension in the dominant 7th chord on V, in C and in F. In examples 2a and 2b the +11 is in the lead, ascending externally to the 9 of the tonic and internally to the 5.

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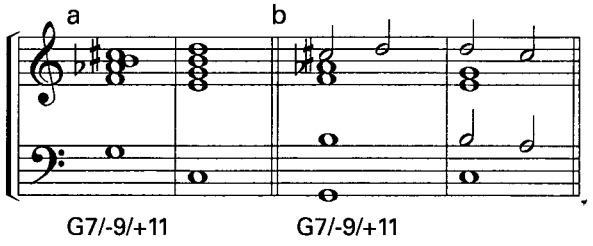

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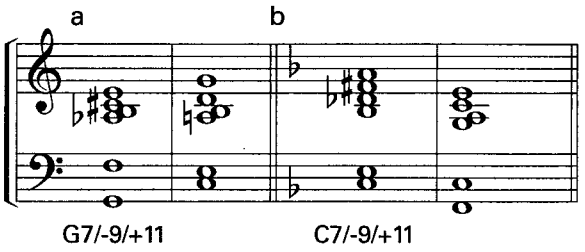
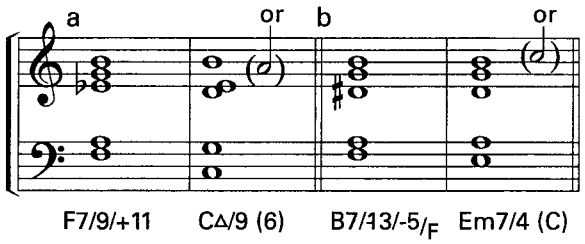


In examples 3a the +11 is resolved ascending in the middle voices. In example 3b the voice leading deviates from the usual one, due to the falling lead. For a piano voicing one shouldn't worry too much about that. For a vocal ensemble, however, it would be a different matter: the given voice leading would not be easy to sing. To solve this problem, we'd have to drop the $f^{\sharp}$ one octave.

37.3 If a dominant 7th chord on IV, from melodic minor, or on VII from minor-major is extended with an +11, this tone is a scale tone instead of an alteration.

4



➤ In example 4a, F7/9/+11 is a scale-tone subdominant in C, borrowed from C melodic minor. We see a plagal progression:

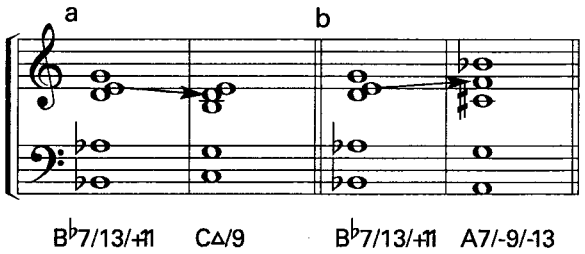
$IV^7 \rightarrow I$ in C.

➤ The secondary dominant for III (Em7/4) in example 4b is here represented by its non-simplified chord symbol B7/13/-5/F and not as TR substitute. The chord is identical with F7/9/+11 in example 4a, however the functions differ.

➤ In example 5a $B^{\flat}$7/13/+11, is a scale-tone subdominant in C minor-major ($^{\flat}$VII).

➤ The same chord in example 5b, but with different function, is now a tritone substitute (simplification) for E7/–10/–5/$B^{\flat}$, applied in a short dominant chain. A7 could function here as secondary dominant for II in C:

5



E7/–10/–5/$B^{\flat}$ → A7/–9/–13 → Dm7/9.

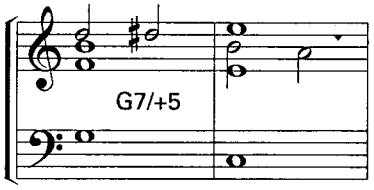
We should remember that F7/+11 as well as $B^{\flat}$7/+11 are both scale-tone chords in C, borrowed from C melodic minor and mm respectively.

The +11, in both F7 and $B^{\flat}$7, can internally resolve descending to the 3 and

ascending to the 5. In this case +11 functions mainly as a suspension for 3 and 5, which can therefore be omitted from the chord. Resolving externally, the +11 can keep its place (see example 4) or can, depending on the following chord and the lead, move in both directions.

37.5 The +5 in a dominant 7th chord (see (7) in summary 33.6) should not be confused with –13; see the $d^{\sharp}$ in example 6, and the $e^{\flat}$ in example 7. The former altered tone belongs in major and preferably resolves ascending to the 3rd of the following chord, while the latter tone originates from minor and has a descending tendency: internally to the 5 and externally to the 9 of the next chord.

6



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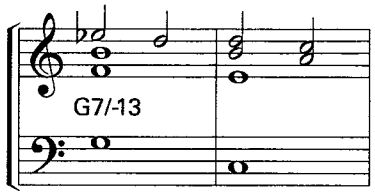


37.6 As the descending 7 and the ascending +5 of the altered dominant 7th chord both resolve to the 3 of the resolution chord, this 3rd will be doubled. Notice the *e* in example 6. Traditionally, the 3 in a major triad is not doubled. Therefore, in traditional four-part harmony the +5 in V^7 in conjunction with the 7 can result in voice-leading problems. In jazz the doubling of the 3rd in a major chord is hardly of any significance.

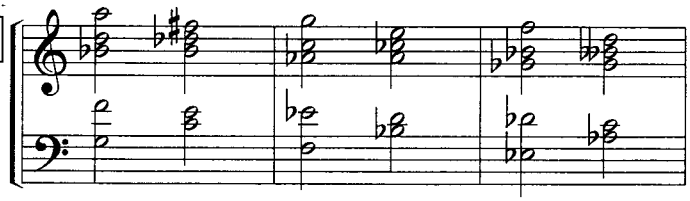
37.7 Besides in the melody, the +5, like the +11, can also occur in the middle voices. In that case the +11 is a moving colouring tone in the dominant 7th chord; an essential element of the voice leading. See also example 1 in lesson 30.2.

37.8 The +5 in conjunction with the 13 in a dominant 7th chord is not a very successful combination. Also the natural 5 with –13 is a combination we rather not hear. See also lesson 27.

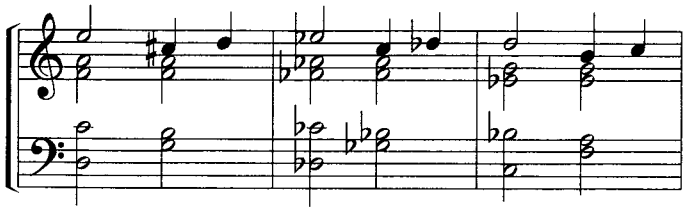
Exercises:

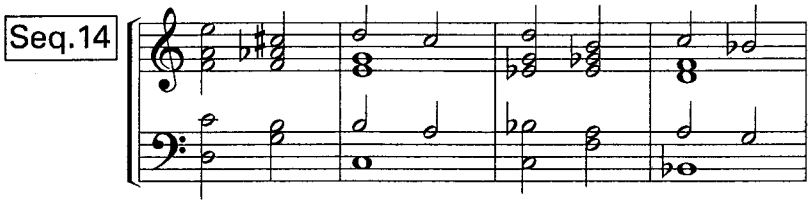
- ✔ Play the examples and transpose them chromatically to all keys.
- ✔ Try in the longer term to memorize them.
- ✔ Play the given sequences over one octave range.
- ✔ Play sequence 12 over one octave, but this time start on Em7/9 instead of Gm7/9.

Seq.12



Seq.13





- ✔ Learn the sequences by heart, and start them on different places in the sequence.
- ✔ Play the sequences, omitting the root tone of the chords in the bass.
- ✔ Compose your own sequences, using the ones shown above as model.

Lesson 38 The augmented triad

The augmented triad is a scale-tone chord on III in minor and on VI in minor-major. However, the ones we often encounter are altered chords, whether enharmonically changed or not. Therefore, we believe the augmented triad not to be out of place in this chapter.

The augmented triad, just like the diminished 7th chord, is an apparent symmetrical chord. Outside harmonic context, the inversions cannot be distinguished from the root position by their sound. Like diminished 7th chords, augmented triads are named after their bass tone.

In jazz we usually hear the augmented triad as part of a chord, mostly as upper structure of an extended chord, e.g. of a minor major 7th (m△), dominant 7th (7), or half diminished (ø) chord.

Just like the diminished 7th chord, the augmented triad produces a tone series (scale) which can be the basis for a tone system. It also opens the possibility, by means of enharmonic change, to modulate to remote keys in one or two steps.

38.1 Through enharmonic change of one of its tones, the augmented triad divides the octave in three apparent equal parts, e.g.: *c-e, e-g♯, a♭-c*. One of the major thirds in the apparent symmetrical construction of the triad in reality is a diminished fourth *g♯-c*, which is changed enharmonically to *a♭-c*.

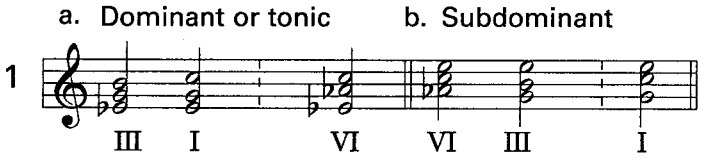
The lower interval of the augmented triad is a major instead of a minor third. Therefore, it doesn't have a fundament tone which, together with the two lower chord tones of the augmented triad, can form a major triad, like we have seen with the diminished 7th chord in lesson 35.6. However, since the lower three tones of a 7/9/+11 chord form a major triad, the root of this chord is the only tone which can function as a genuine fundament tone for the augmented triad, consisting of the 7, 9 and +11 of the 7/9/+11 chord (NB!). There are other tones, however, which function comparably to a fundament tone; we will call them *semi fundament*.

Doubling of one of the chord tones of the augmented triad in the bass, comparable to the addition of a fundament tone, substantially intensifies its dominant function. This creates a fifth relation (dominant relation) with its succeeding chord. See examples 9a and 12.

A bass which forms a minor triad with the root and the third of the augmented triad can also be comparable to a fundament tone for the augmented triad, as the perfect fifth in the minor triad gives a more distinct impression of the function of the chord than does the unstable +5 in the augmented triad.

38.2 The scale-tone augmented triad is found on III in harmonic and melodic minor, and on VI in minor-major. On III in minor the chord has mainly dominant function, therefore, a tonic or tonic substitute usually follows. The augmented triad on III in minor can also have tonic function, in which case the leading tone is a suspension for the 1 or for the 6. On VI in minor-major the augmented triad has subdominant function, and a dominant or tonic, or their substitutes, usually follows.

38.3 Example 1a and 1b show the two augmented scale-tone triads on III and on VI, together with their resolutions in C minor (1a) and in C mm (1b) respectively.



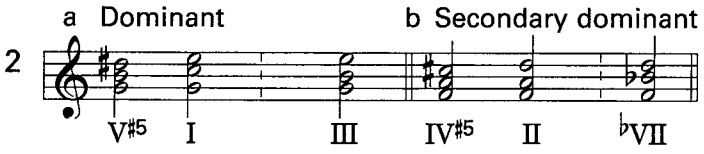
➤ E♭+ on III in example 1a has dominant function in C minor and resolves to the tonic Cm or to the tonic substitute A♭.

➤ A♭+ on VI in example 1b has subdominant function in C minor-major and resolves here to the tonic substitute Em or to the tonic C.

The doubling in the bass of the *g* or the *e*♭ in E♭+, would strongly intensify its dominant relation with Cm and A♭ respectively.

A tonic chord (CmΔ) results when *c* is added in the bass below E♭+. In this tonic chord the 7 (*b*) is a suspension which either can resolve or can keep its position as colouring dissonant. The same can be done with A♭+: after adding *f* in the bass, the subdominant prime degree FmΔ (IV^7) is formed.

38.4 Example 2 shows alterations of the triads on V and IV.*



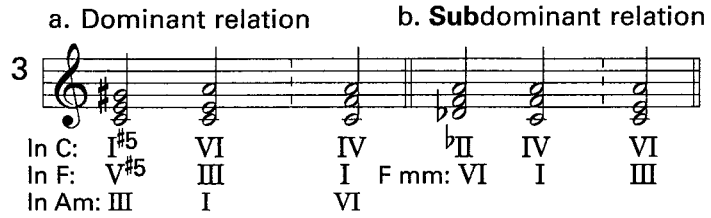
➤ G+ in example 2a has dominant function and resolves to the tonic C or to the tonic substitute Em. Notice the similarity between example 1a in C minor and 2a in E minor.

➤ F+ in example 2b is secondary dominant (III in D minor) for II (Dm) in C and for the lowered VII, B♭, in C minor or C mm.

* Because the tonic tone *c* has been altered in *c*♯, one prefers to identify F+ as a secondary dominant instead of being an altered scale degree ($IV^{\sharp 5}$). Yet we use, against this rule, the altered scale degree here for the sake of clarity.

By adding of a doubled chord tone in the bass, as discussed in 38.1, the dominant function of the augmented triads in the above and the following examples becomes more intensified.

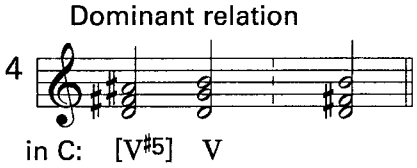
38.5 Example 3 shows the augmented triads on I and on ♭II in C major. We see C+ and D♭+.



➤ In C, C+ (I♯5) in example 3 also is III in A minor, and altered V in F. It therefore has a dominant relation with VI (Am), as well as with IV (F). We have seen a similar resolution of the augmented triad in example 2a. Example 3a can be heard in C, in F, as well as in A minor.

➤ D♭+ (♭II) in example 3b is also subdominant (VI) in F mm. Consequently, D♭+ has subdominant relation with IV (F), and VI (Am), in C. Notice the same progression as in example 1b. This time in F mm:

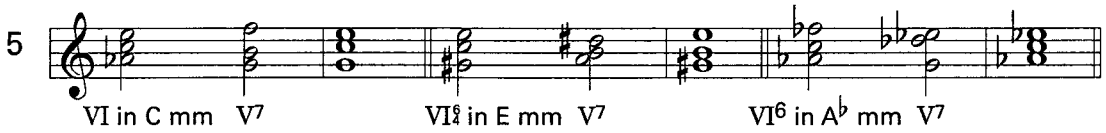
♭VI→I or III in F mm, which is the same as ♭II→ IV or VI in C.



➤ D+ in example 4 is double dominant in C (altered V in G) and also dominant for Bm (III in B minor), not belonging to C. Therefore, the latter resolution of D+ does not belong in our series in C. For this reason examples for the augmented triads on *e*, *b* and *a* are omitted. These augmented triads resolve to chords, none of which belong to C, C minor or C mm.

38.6 The augmented triads in the examples 1-4, except for D+ → Bm in example 4, are all conceived in C major, C minor or C minor-major. The same augmented triads, however, can due to the apparent symmetrical structure of their inversions, after enharmonic change occur in the keys which are a major third apart from C. By this property they form the key family of C-E-A♭. Their scale degree (position) and, consequently, their function will determine whether they belong to major, minor or minor-major.

38.7 The harmonic possibilities of the augmented triads as shown in the previous examples can still be expanded, by letting the voices resolve, for example, in contrary motion.



➤ Example 5 shows the progression VI→V7→I in the key family mentioned above: respectively in C mm, E mm and A♭ mm. The 5 is not present in V7. In these VI-V7 progressions, two voices descend and one ascends. Owing to

enharmonic change we see the augmented triad in root position ($A^{\flat}$+), in $\frac{6}{4}$ position (C+) and in sixth position ($F^{\flat}$+).

38.8 By adding tones, adjusting the voicing of the chords, and by letting some of the voices resolve crosswise, the sound of the chords can be made more in accordance with the jazz idiom. For example, $A^{\flat}$+ forms the upper structure of $D^{\varnothing}/9$. Similarly, C+ and $F^{\flat}$+ form the upper structure of $F^{\sharp\varnothing}/9$ and $B^{\flat\varnothing}/9$ respectively. These half diminished chords can function as suspending chords (II^7) for the V^7 chords G7, B7 and $E^{\flat}7$ respectively, which resolve to the corresponding tonic chords C, E and $A^{\flat}$, resulting in II-V-I progressions .

38.9 Example 6 shows arbitrary voicings of the three II-V-I progressions, a major third apart, as mentioned above. In each progression the upper structure of the first chord ($^{\varnothing}$) consists of the augmented triad on $a^{\flat}$ ($g^{\sharp}$). In some places the voices of the augmented triad resolve crosswise to the dominant 7th chord, dropping an octave. See dotted lines.*

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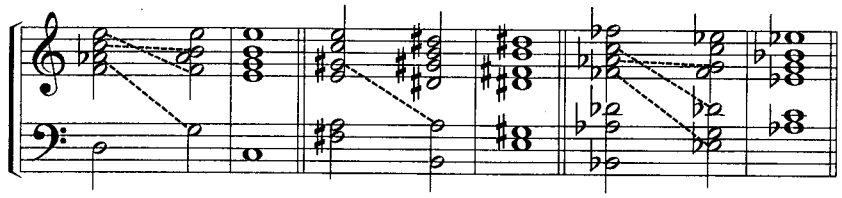
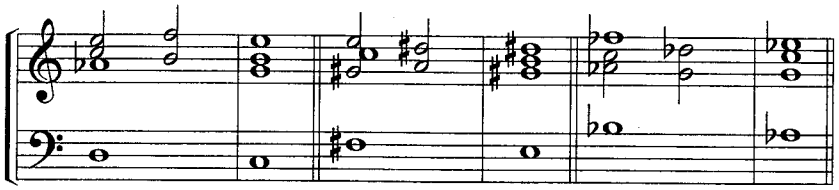


38.10 By having one of the voices in the augmented triad keep its position and let the remaining two voices move in contrary motion, three different incomplete diminished 7th chords are formed. These can be completed by adding the missing fourth tone in the bass of the augmented triad. See example 7.*

7



Three II-VII§-I minor-major progressions, a major third apart, are the result:

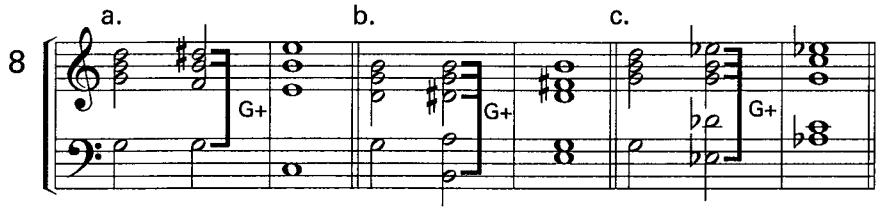
$D^{\varnothing}\rightarrow D^{o}\rightarrow C\Delta$; $F^{\sharp\varnothing}\rightarrow F^{\sharp o}\rightarrow E\Delta$; $B^{\flat\varnothing}\rightarrow B^{\flat o}\rightarrow A^{\flat}\Delta$

The three diminished 7th chords in their turn, can resolve within their appropriate families as discussed in lesson 35.

38.11 The augmented triad, applied as dominant or secondary dominant, can be converted into a dominant 7th chord with an augmented 5 or –13, by adding the minor 7th over its root in the bass.

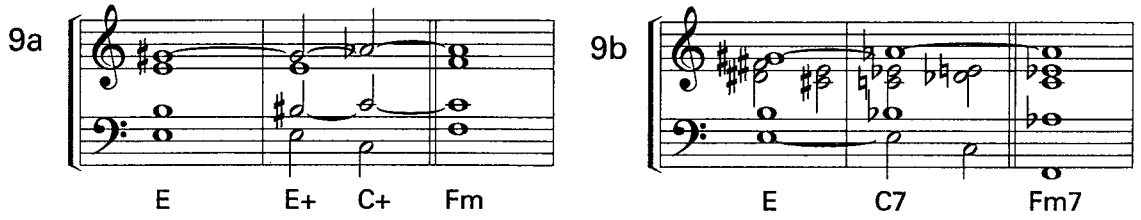
➤ Example 8 shows such chords on *g*, *b* and $e^{\flat}$ resolving from G to CΔ (8a), and to chords a major third apart from C (Em7/9 in 8b and $A^{\flat}\Delta$ in 8c). The three dominant 7th chords originate from the same G+ chord (*g-b-*$d^{\sharp}$ or $e^{\flat}$). Frequently, a 7/+5 chord resolves to a minor chord (example 8b) in which case,

*When the six bars of this progression are played in succession, after which the first two are repeated, we hear the chords of the last eight bars of John Coltrane's GIANT STEPS.



+5 is enharmonized to –13 (*g* in 8b). If resolving to minor, the dominant 7th chord can also be extended by other tones derived from minor. The transition from E major to F minor at the end of the bridge of Jerome Kern's ALL THE THINGS YOU ARE is a remarkable illustration of this (see 38.12 below).

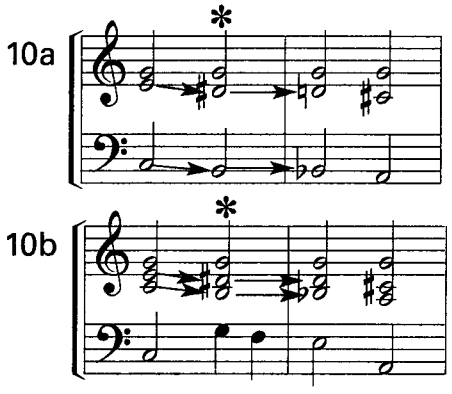
38.12 Example 9a shows the following progression: E → E+ → C+ → Fm.



This is a reduction of the progression in example 9b. After enharmonic change, E+ as well as C+ are inversions of $A^{\flat}$+, which is dominant (III) in F minor, following in the third bar. In one step a modulation from E major to the distant key of F minor (8 signs difference!) has been achieved. In example 9b, on the first beat of the second bar, the enharmonically changed E+ is extended with the 7 ($b^{\flat}$) and –10 ($e^{\flat}$) of C7, while at the same time the 3 ($g^{\sharp}$) of E+ in the lead is enharmonized to –13 ($a^{\flat}$), $e^{\flat}$ as well as $a^{\flat}$ being derived from F minor, the key which already appears on the first beat of bar 2.

38.13 As already mentioned in lesson 33.1, an alteration doesn't invariably have to result in an altered chord with an independent harmonic function. Chromatic passing tones can also create a sonority, with the appearance of a functional chord, which in fact is the result of voice leading, as illustrated in following examples.

➤ B+ in example 10a (*), inversion of G+, is $V^{\sharp 5}$ (g–b–$d^{\sharp}$) in C major. After enharmonization of $d^{\sharp}$ to $e^{\flat}$ and of b to $c^{\flat}$, it also becomes VI ($c^{\flat}$–$e^{\flat}$–g) in $E^{\flat}$ minor-major, resolving as subdominant to Gm, III in $E^{\flat}$. Example 10b shows these triads from example 10a with a different bass, which fits better our actual harmonic perception. It shows G+ (*) resolving to an altered III in C ($E^{\varnothing}$), which continues as subdominant (Gm or $E^{\varnothing}$) in D minor. The latter progression is more in accordance with the harmonic implication of the C major region we perceive, than the tonally



rather remote progression of VI in E♭mm (C♭+) resolving to III in E♭; our ears tell us that C♭+ has no distinctive tonal relation with either Gm or with E∅. The augmented triad in example 10a turns out to be the result of two chromatic passing tones between C and $Gm_{/B♭}$.

➤ A+ in example 11 (✻), is an inversion of F+ which is III (dominant) in D minor. It follows Dm and resolves to Dm7, only the bass of which illustrates the actual harmonic implication of the chromatic passing tone $c^{\sharp}$; D♭+, subdominant (VI in F mm) resolving to F in the upper stave, would be in this case a tonally too remote pivot chord.

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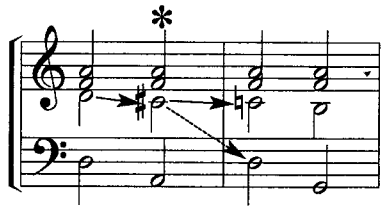

38.14 It is often difficult, due to its symmetrical construction, to establish the position of an augmented triad, when it functions as a passing pivot chord. The enharmonic change of tones usually alters its function and frequently also its position.

➤ E♭+ in example 12 (✻) is VI (subdominant) in G minor-major resolving (plagal) to G. After enharmonization $e^{♭} \leftrightarrow d^{\sharp}$, it also is an inversion of G+ (g–b–$d^{\sharp}$) with +5 $d^{\sharp}$ ($e^{♭}$) in the bass. It follows Em in which it is III (dominant). Both function and position of the augmented triad has changed.

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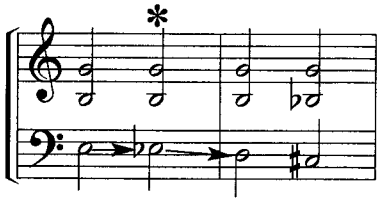

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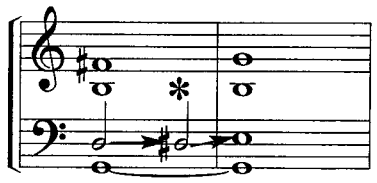

➤ G+ (g–b–$d^{\sharp}$), extended with the major 7th ($f^{\sharp}$) in example 13 (✻), is altered tonic in root position in G and also dominant (III), in root position as well, in E minor, to which it resolves ($Em_{/G}$). In this case the position and function of the augmented triad stays the same. This progression can also simply be seen as I→VI⁶ in G in which the passing leading tone $d^{\sharp}$ is inserted.

38.15 In order to analyse the function of an augmented triad in a progression, the following questions have to be answered:

Which is the function and the position of the augmented triad in the key and mode of the preceding chord?

In major the augmented triad invariably is an altered chord. In minor it is III and has dominant and sometimes tonic function. In minor-major it is lowered VI and has subdominant function. As an altered chord, the augmented triad very seldom occurs in minor.

On which degree occurs the augmented triad in the key and mode of the succeeding chord?

Since the chord frequently is not in the same position in both keys (or modes), its position in the key of the chord to which it resolves has to be found. To do this, usually one or more tones have to be enharmonically changed.

Which is the function of the augmented triad in the key and mode of the succeeding chord?

The function of the scale-tone triads can be found in examples 1a and 1b, of the altered triads in examples 2a, 2b, 3a, 3b and 4.*

If these questions can not adequately be answered, we may assume that the augmented triad is the result of voice-leading activity. See also 38.13.

38.16 By placing a major second between the tones of the augmented triad, a tone series, called *whole-tone scale*, is created. Since one of the intervals between two adjacent tones of the scale is a diminished third – sounding like a whole tone – the division of the octave in six whole tones is, within the diatonic tone system, only an apparent division in equal parts.

Five ascending tones of the scale, from $e^{\flat}$ to *b* (example 14), are scale tones of, for example, C melodic minor. The diminished third occurs between the leading tone (*b*) and the lowered second tone ($d^{\flat}$) of the C minor scale. The tonic (*c*) is not present. This gives an indication of the dominant character of the whole-tone scale in C minor and, as a consequence of its symmetrical appearance, also in D minor, E minor, $F^{\sharp}$ or $G^{\flat}$ minor, $G^{\sharp}$ or $A^{\flat}$ minor and $A^{\sharp}$ or $B^{\flat}$ minor.

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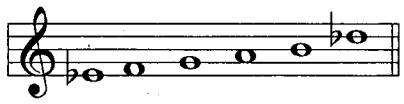
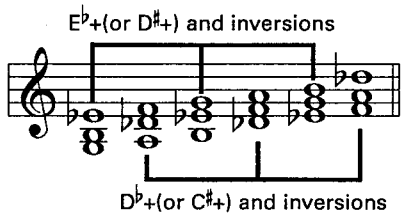


38.17 Example 15 shows the augmented triads composed of tone material of the scale shown in example 14. We notice three positions of $E^{\flat}$+ (or $D^{\sharp}$+) and three of $D^{\flat}$+ (or $C^{\sharp}$+). If these augmented triads and their (enharmonized) inversions are regarded as dominants, for instance as altered V (e.g.: *g–b–*$d^{\sharp}$ and *f–a–*$c^{\sharp}$) or as scale-tone III (e.g.: $e^{\flat}$*–g–b* and $d^{\flat}$*–f–a*), we notice, due to their apparent congruence, the key families of C–E–$A^{\flat}$ and of $B^{\flat}$–D–$F^{\sharp}$, in major and parallel minor. See also 38.16.

15



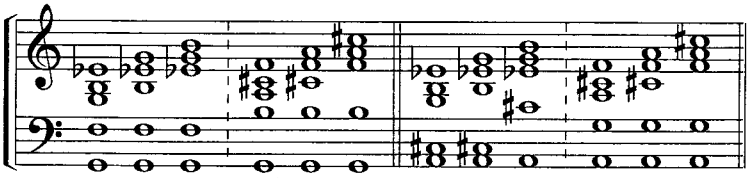
38.18 The upper structure of a 7/9/+11 chord, as discussed in 38.1, forms an augmented triad in root position and, consequently, the root tone of the 7/9/+11 chord can function as the (only) genuine fundament tone for an augmented triad. Any of the chords shown in example 15 can be the upper structure of this 7/9/+11 chord. We notice in this example the upper structure of, for instance, G7/9/+11(–5), i.e. *f–a–*$c^{\sharp}$ or *f–a–*$d^{\flat}$, and its inversions below the *f*, the *a* and the $d^{\flat}$ ($c^{\sharp}$) of the scale. This implies that, together with the result of 38.17, any augmented triad in example 15 can function as dominant in C major as well as in C minor, and, as a consequence of the symmetrical appearance of the scale and of the enharmonic congruence of the chords, also as dominant in all six keys of the two families mentioned 38.17; in major as well as in minor. It means that any tone of the whole-tone scale in example 14 can be an added bass tone, either fundament or semi fundament, for each of the augmented triads from example 15.

* The appendix in volume 2 gives a summary of the augmented triads belonging to the key family of C, i.e. C, E and $A^{\flat}$. See also examples 10-16.

By placing successively all tones of the whole-tone scale from example 14 below anyone of the augmented triads in example 15, six different dominant 7th chords without perfect fifth can be formed. Three are 7/+5(–13) chords of which the seventh is absent, and three are 7/9/–5(+11) chords of which the third is absent. When these missing tones are added to the augmented triads, preferably positioned over the bass, these two types of dominant 7th chords can function as V^7; each one of them can resolve to its corresponding tonic of the key families mentioned above, major as well as minor.

➤ In example 16 we see the two dominant 7th chord types, 7/+5(–13) and 7/9/–5(+11), placed above two arbitrary successive bass tones (*g* and *a*) from the whole-tone scale in example 14. The upper structure consists of the two augmented triads, E♭+ and C♯+ (D♭+) and their inversions from example 15. The missing thirds and sevenths have been added, to complete the 7th chords.

16

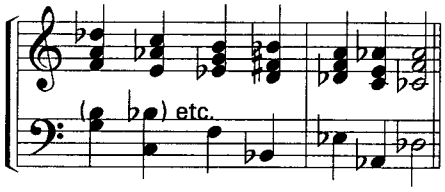


G7/-13(+5) G7/9/+11(-5) A7/9/-5(+11) A7/-13(+5)

38.19 Chromatically descending augmented triads have a mutual relation which can be compared with that of chromatically descending diminished 7th chords.

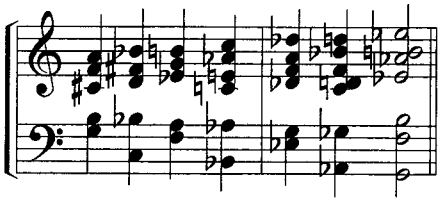
➤ Just like the fundament tones added to the diminished 7th chords, the bass tones placed below the augmented triads in example 17a move in descending fifths or ascending fourths. We hear a dominant chain (see also lesson 25.14). The dominant character of the chords increases when the missing thirds and sevenths are added. In the first two chords of example 17a these tones are placed within parenthesis. They descend chromatically with the chain; the 3 moving to 7 and the 7 to the 3, etc.

17a



➤ Example 17b shows a chain of dominant 7th chords, in which the augmented triads in the upper structure resolve ascending. In this example the thirds are absent in C7/9/+11 and in B♭7/9/+11. This is the result of the voice leading. Also the doubling of the 7 results from voice leading.

17b

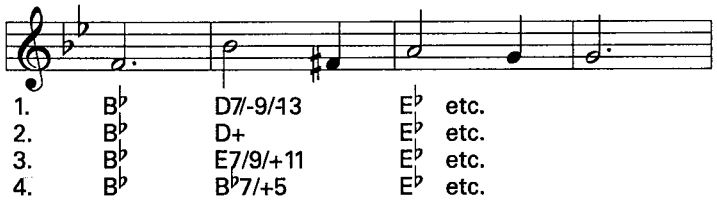


The 13 of the A♭7/9/+11/13 chord and the –9 of the G7/–9/–13 chord at the end are the only tones not derived from the whole-tone scale (NB!).

38.20 In lesson 31.11 on approach chords (q.v.) we have discussed the secondary dominant for VI resolving deceptively to IV (VI of VI): B♭ →D7/–9/–13→E♭. The progression in that example has been identified as a variation of the deceptive cadence, V7→VI.

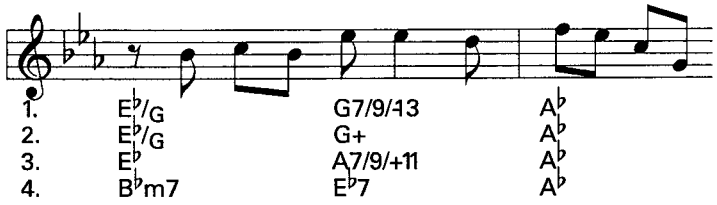
Since we have become familiar with the properties of the augmented triad, and considering the melody at that place of the song in question (SOME DAY MY PRINCE WILL COME, see example 18a), the progression D7/–9/–13 → E♭ can also be interpreted as D+ → E♭; D+ (inversion of I♯5, i.e. B♭+) supplemented by its 7 (*c*), and functioning as altered (+5) dominant for IV (E♭). The extension of D7 with –9 (*e*♭), shown in example 11 of lesson 31.11, points in the direction of G minor, and thus of the deceptive-cadence approach. However, the D7 chord, extended with a major 9 (*e*), rather unusual in G minor, is not out of place in this context. This points in the direction of the B♭ whole-tone scale (NB!), and consequently in the direction of the harmonization of that part of the melody with D7/9/+5(–13), which is confirmed by the alternative possibility to substitute D7/9/+5 by E7/9/+11(–5), having the same augmented triad as upper structure (see example 16); also the latter chord precisely suits the melody and can resolve to E♭.

18a



The same progression, with the same possible harmonic alternatives, which are also reasonably in concordance with the melody (*d* is somewhat problematic), can be heard in the third bar of 'Fats' Waller's AIN'T MISBEHAVING. See example 18b.

18b



See also INDIAN SUMMER in lesson 30.2, in which D7/+5, C7/9+11, A♭7/+5/+11 and F♯7/+5 can alternate the G chord; all dominant 7th chords being derived from the whole-tone scale starting on *d* (or on *c*, *a*♭ or *f*♯, etc.).

The two above examples give us a better understanding of the harmonic implications of dominant 7th chords with a major-third relation; e.g. B♭7 ↔ D7 and E♭7 ↔ G7. Furthermore, they show how the augmented triad and the corresponding whole-tone scale can sometimes help us finding alternative ways of applying a dominant 7th chord as V7.

From here on, we will leave it to the resourceful reader to discover the many possibilities which the augmented triad offers. To conclude, a last warning remains: the augmented triad should be handled cautiously. One runs the risk that its characteristic sound becomes too dominant and, more or less comparable with the use of octotonics, gets easily tiring. Applying these tone systems, as usually, requires good taste.*

* One can hear interesting illustrations of the application of augmented triads and the whole tone scale in Bix Beiderbecke's piano solo IN A MIST (1928) and in Claude Debussy's prelude VOILES (book 1 nr.2).

Exercises:

- ✔ Play all the examples.
- ✔ Recite by heart on which degree and in which key and mode the scale-tone augmented triads occur.
- ✔ Determine on which degree and in which key and mode a given scale-tone augmented triad occurs.
- ✔ Play the augmented triads on the whole-tone scale, starting on *c* and on $c^{\sharp}$.
- ✔ Place an *f* under the augmented triad on *b* and play this chord on the whole-tone scale starting on *f*.
- ✔ Place a *g* under the first chord of the exercise above, and play the chord on the whole-tone scale starting on *g*.
- ✔ Place an $f^{\sharp}$ under the augmented triad on *c*, and play this chord on the whole-tone scale starting on $f^{\sharp}$. Give the chord a fundament tone.
- ✔ Place a *d* under the first chord of the exercise above (yes, the fundament tone!), and play the chord on the whole-tone scale starting on *d*.
- ✔ Play a 7/9 chord with the 5 omitted on every tone of the whole-tone scale, e.g. on *c*–*d*–*e*–$f^{\sharp}$–$g^{\sharp}$–$a^{\sharp}$. The tones of this scale are the roots of the dominant 7/9th chords. Subsequently, play the appropriate 7/9 chords on the tones of the scale starting on $c^{\sharp}$.
- ✔ Do the same with a 7/9/+11 chord of which the 5 is omitted.
- ✔ Find as many resolutions as possible, by inverting and changing tones enharmonically, of one or more given augmented triads. Determine in which keys and modes they belong and establish their harmonic function in those keys and modes.

REFERENCE INDEX volume 1*

* Bold-face print refers to lessons and chapters. '–' after an entry means 'and after'.