THE
LOST
CHORD

HARMONISATION
ON
KEYBOARD INSTRUMENTS

III

STEPHEN TAYLOR

The Lost Chord

Seated one day at the organ,
I was weary and ill at ease,
And my fingers wander'd idly
Over the noisy keys.

I know not what I was playing,
Or what I was dreaming then,
But I struck one chord of music,
Like the sound of a great Amen.

It flooded the crimson twilight,
Like the close of an angel's psalm,
And it lay on my fever'd spirit
With a touch of infinite calm.

It quieted pain and sorrow,
Like love overcoming strife,
It seem'd the harmonious echo
From our discordant life.

It link'd all perplexed meanings
Into one perfect peace,
And trembled away into silence,
As if it were loth to cease.

I have sought, but I seek it vainly,
That one lost chord divine,
Which came from the soul of the organ,
And enter'd into mine.

It may be that death's bright angel
Will speak in that chord again;
It may be that only in heav'n
I shall hear that grand Amen.

(Poem by Adelaide Proctor, set to music by Arthur Sullivan in 1877)

PART III

CONTENTS

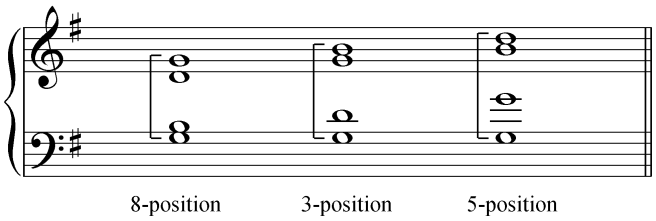
Instructions for use

Readers are advised to consult the Preface to *The Lost Chord* elsewhere on this site.

In this third and final volume of *The Lost Chord*, the chord of the six-four (or 2nd inversion) and the chord of the seventh and its inversions are explored, as well as further modulation, passing and auxiliary notes, and elementary improvisation. A continuing and important subject is the figured bass. Familiarity with these topics will enable the player to adequately harmonise melodies from the eighteenth and nineteenth centuries.

As in the preceding volumes, I have attempted to explain each new topic not only from a theoretical but also from a musical point of view. It is for this reason that the sequence of topics is somewhat different to other harmonisation tutors. Inversions of chords, for example, are not simply discussed one after the other, but according to their practical usability.

Triads with the root in the bass are played in three positions, named after the interval between the soprano and the bass:



The above chords are in closed spacing: the distance between the soprano and tenor is less than an octave; between the three upper parts there is no space to add a note belonging to the chord in question. As stated earlier, all exercises in *The Lost Chord* are to be played in closed and mixed spacing, with the upper three parts in the right hand (r.h.) and the bass in the left hand (l.h.). The reason why open spacing is hardly employed is explained in ch.13 of the present volume.

The 1st inversion of the triad is referred to as the 6-chord in view of the interval of a 6th, distinguishing it from the triad in root position. Thus also 7-chord etc. A note belonging to a particular chord is a chord note; a note strange to a chord is a non-chordal note.

Where four-part harmonisation is required from one or two given parts, the player should generally avoid writing out the additional parts, though it may occasionally be of use in order to examine progressions and part-writing more closely. Where necessary, the layout provides sufficient space to add parts and figured bass.

Many hymn tunes, and particularly those composed before the 19th century, have rich written and oral histories. This accounts for the fact that they are often transmitted in different versions, in variant keys and even with divergent titles. Many date from a period when barlines were employed irregularly; indeed, many tunes were not written in regular time at all but have a charmingly irregular rhythmic structure. Frequent alternation of duple and triple time, for example, was still widespread in the 17th century. In such cases, the addition of bar lines and time signatures often only muddles the score. Where clarification is desirable I have added vertical lines between the staves.

As stated in the previous volumes, all hymns and chorales are named after the actual melody rather than after the first line of the text, and dates of composition or publication are given as far as possible. An index of hymns and chorales used as exercise material in *The Lost Chord* is provided in a separate document.

Those who have worked their way through Parts I and II of *The Lost Chord* will have discovered that the study of practical harmonisation (and improvisation) is no less challenging and time-consuming than learning to play pieces of music. Only through years of practise, preferably under the supervision of a teacher, can the player develop sufficient technique, experience and taste to harmonise melodies and (figured) basses proficiently and to thus lay the basis for improvisation.

I sincerely hope that this tutor will provide support to the reader who pursues the long path - to use the words of the poet of *The Lost Chord* - from *all perplexed meanings* to *one perfect peace*.

1

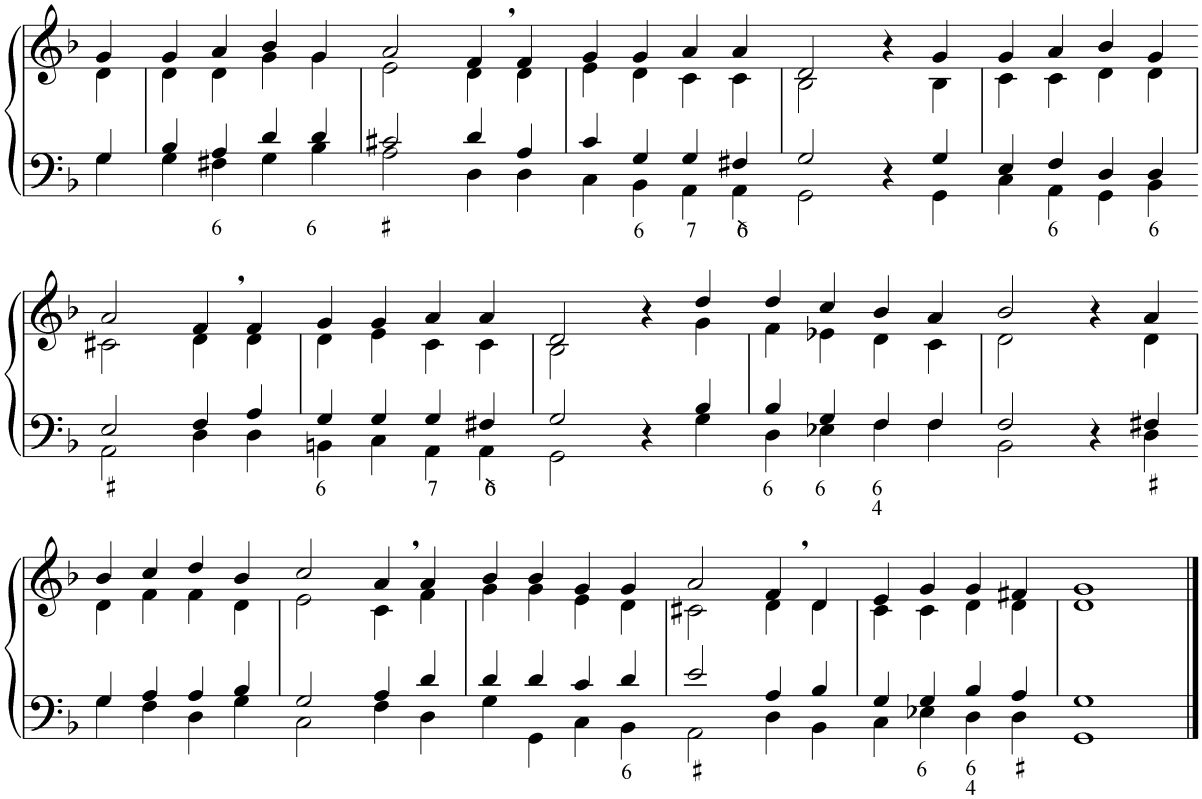
PERSPECTIVES

The emergence of the tonal system
Vertical and horizontal tensions

The emergence of the tonal system

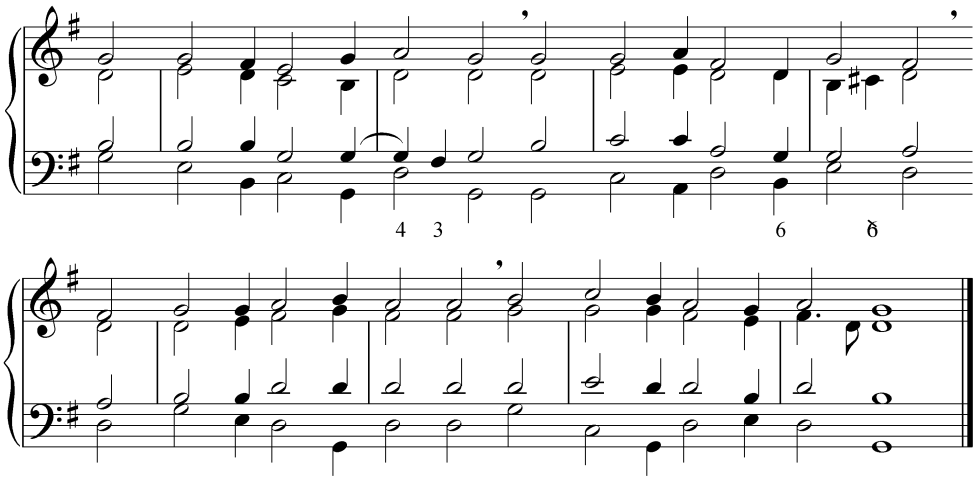
Classical tonality, with its system of major and minor keys and of chord functions, is fundamental to Western music of the 18th and 19th centuries.[+] Tonality replaced medieval modality, with its system of modes. The transition from modality to tonality was a gradual process through the 16th and 17th centuries. Many of our hymns and chorales date from this period. It is therefore not always easy to categorise such melodies and harmonisations as modal or tonal. One of the things that makes these hymns and chorales so rich, is the very tension they often exude by being 'caught' between the two systems.

The Genevan psalm tunes of the 16th century form a vivid example. They were published between 1539-1562 along with new metrical psalm translations by Johannes Calvijn and contemporaries. These 16th-century melodies were written in the medieval modes. However, the harmonisations, mainly by Louis Bourgeois (1547) and Claude Goudimel (1564), reveal distinctly tonal traits, particularly in the cadences.
Harmonisations from the 17th century, when the tonal system was clearly emerging, display a greater variety of harmonic means. In 1609, Michael Praetorius harmonised the 16th-century melody *Von Gott will ich nicht lassen* using the 6-chord, the 6-4-chord, and the 7-chord, subjects requiring our attention in the present volume:

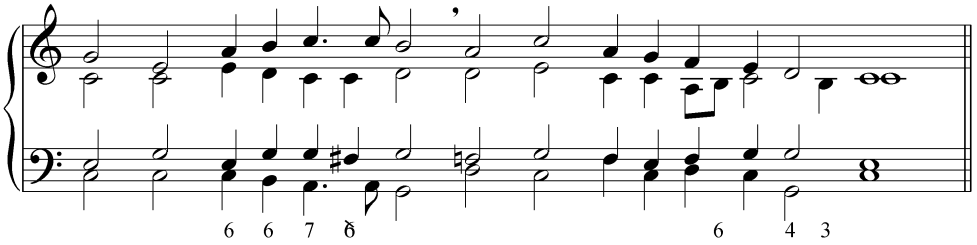


Forty years later, Johann Crüger, in his 1649 harmonisation of another 16th-century tune, *Nun lasst uns Gott dem Herren*, still limited himself to the triad in the root position, with only two 6-chords:

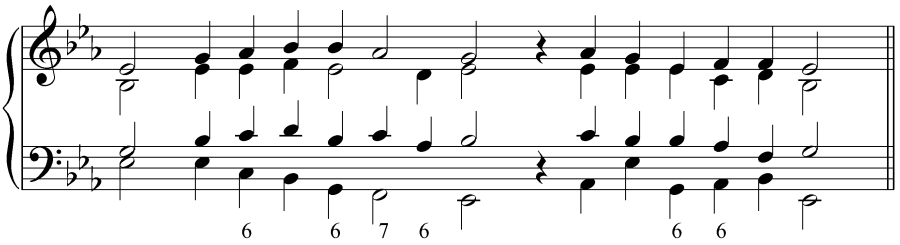
[+] The term 'tonality' was first used only in 1821, when François Henri Joseph Castil-Blaze (1784-1857) distinguished between *cordes tonales* (I, IV and V) and *cordes mélodiques*.



It is tempting to think that progressive and conservative forces were active in these two settings. But this is tricky material. For example, there is every reason to harmonise a simple tune in a simple manner. Moreover, an older melody, perhaps written in a medieval mode, may leave its mark on a later harmonisation. In other settings, Crüger, like Michael Praetorius, proves to be well aware of the expressive power of the 7-chord, as in *Jesus, meine Zuversicht* (1653):



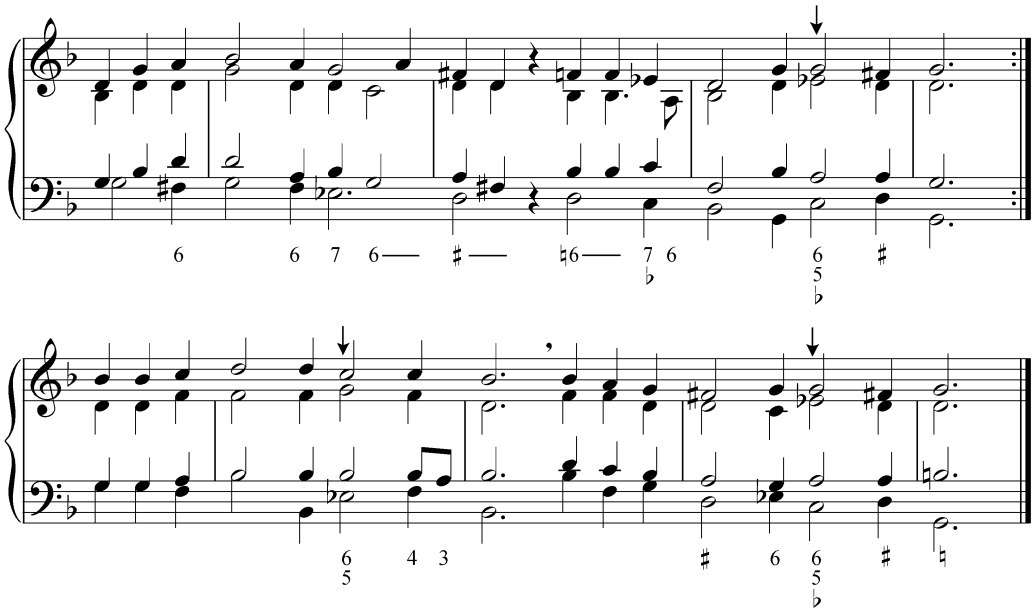
and in *Wie soll ich dich empfangen*, dating from the same year:



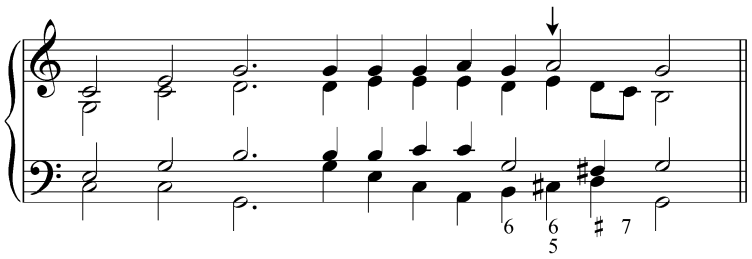
In contrast to the 16th-century *Nun lasst uns Gott dem Herren* quoted above, Crüger almost certainly harmonised his own adaptation of an existing melody in *Jesus, meine Zuversicht*, and a melody of his own in *Wie soll ich dich empfangen*. New material, therefore, adapted or created according to the latest developments!

Vertical and horizontal tensions

The above examples make use of the chord of the 7th, or the 7-chord. The 7-chord in the 'root position' and '1st inversion' (6-5-chord, see ch.4) became widely common in the first half of the 17th century. In Georg Neumark's melody and harmonisation *Wer nur den lieben Gott lässt walten* (1657), the '1st inversion' of the 7-chord is a regular and expressive feature of the setting:



More than fifty years before (1604), Jakob Praetorius had harmonised the opening of Philipp Nicolai's *Wachet auf, ruft uns die Stimme* (1599) in a forceful manner by sharpening the bass of this 1st inversion of the 7-chord:



In ch.4 we will discuss this and other examples.

Not without reason are the terms 'root position' and 'inversion' written above in inverted commas. In discussing the 6-chord (Part II ch.7-8) we noted that use of the 6th above the bass bore the mark of horizontal thinking (the 6th as an appoggiatura, preceding the 5th) rather than that of a vertical approach (moving the root to an upper voice).
From a 'horizontal' point of view, many chords can be explained in terms of linear movement. Considered 'vertically', the emergence of the tonal system meant that the root of the chord became all-important, no matter in which voice it was placed.[+]

Viewed historically, the chords discussed in Part III of *The Lost Chord* take us forward into the 18th and 19th centuries (which is not to say that these chords were not used before). Our harmonic vocabulary is extended to include the 7-chord and its three inversions, and the 2nd inversion of the triad. Whether we think in terms of (horizontal) part writing or (vertical) chords will depend on the context and the examples of the masters. A language can be learnt in many ways. One way or another, our musical vocabulary will enable us to harmonise almost all melodies, and to realise the sometimes complex-looking figured basses of the 18th century.

[+] Although Jean-Philippe Rameau (1683-1764) is usually seen as the founder of the theory by which the root becomes the point of reference *(centre harmonique*), the concept of chord inversion was already known from the writings of theorists such as Johannes Lippius (1612), his follower Henricus Baryphonus (1630), Thomas Campion (ca. 1613) and others.

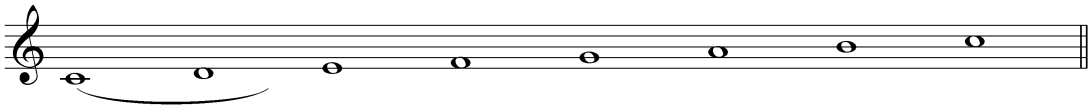
2

THE CHORD OF THE SEVENTH (i)

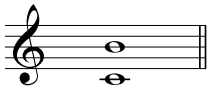
The interval of the 7th
The 7th as an appoggiatura before the 6th

The interval of the 7th

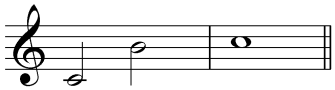
On the very first page of Part I of *The Lost Chord*, the player was encouraged to listen carefully to the different degrees of tension caused when the ascending major scale is heard against the sustained tonic:



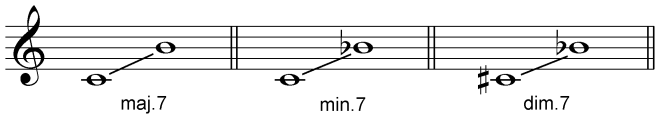
This tension is at its greatest at the seventh note, the B above the sustained C, forming together the interval of the **major 7th**. However, the ongoing, ascending stepwise movement, and particularly that from the leading note B up to the tonic, considerably weakens the clash. The full intensity of the dissonance is revealed if we remove the major 7th from any musical context:



If we omit the other notes of the scale and jump upwards from C to B, we hear how 'angular' the major 7th is (in great contrast to the complementary interval of the minor 2nd):

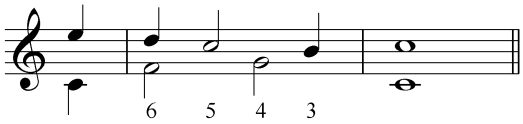


As a melodic interval, the major 7th is therefore something of an outsider. But it comes back strongly as a harmonic interval, and not only the major 7th, but also the **minor 7th** and the **diminished 7th**:

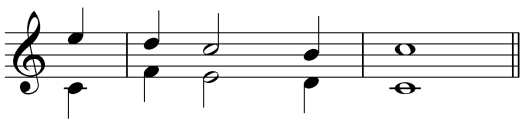


The 7th as an appoggiatura before the 6th

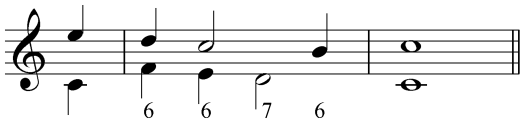
In Part II ch.7 the 6th was discussed as an appoggiatura before the 5th:



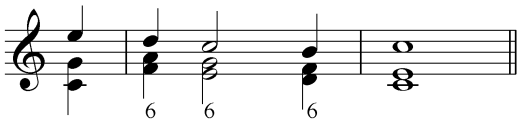
Assuming that the soprano is a given part, the alto could proceed in parallel 6ths:



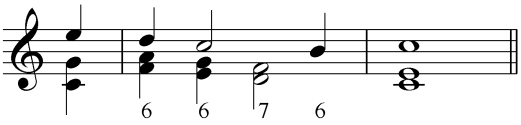
But the effect is plainer, partly because the syncopated rhythm has been weakened. However, we now have an additional means at hand to revive the syncopation:



By having the lower voice move on quicker to D, the last 6th is preceded by the 7th as an appoggiatura. Here in a nutshell is the most common use of the 7th in the 17th century; instead of very neatly - but somewhat plainly - descending in parallel 6ths:

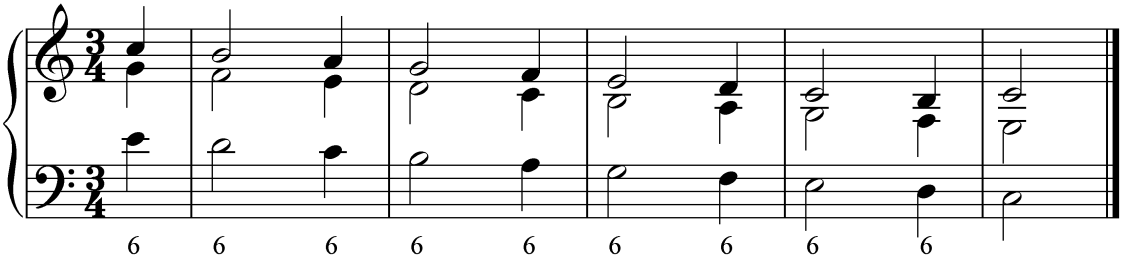


the parts slide past one another in a harmonic and rhythmic movement in which the 7th is no more - but no less - than an expressive ornament:

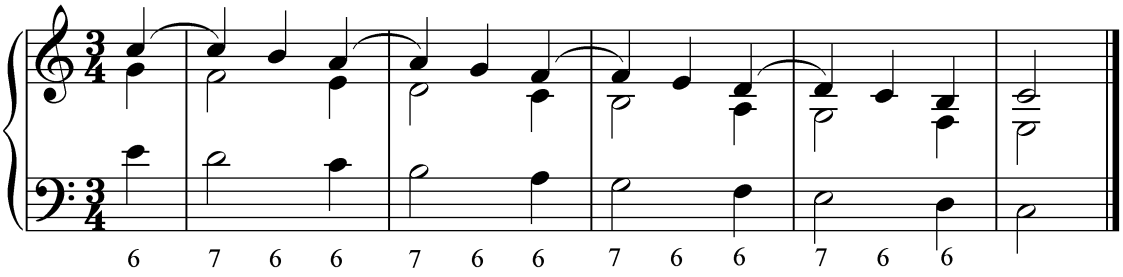


EXERCISES:

The first exercise is based on the following progression of 6-chords:



If, in the soprano, the 6th on the 3rd beat is tied over to the next bar, the chord of the 7th, or 7-chord, occurs on the strong beat. The 7th then falls stepwise to the 6th on the second beat, and the progression is repeated sequentially:



Thus the classical pattern of tension and relaxation is created (see Part II ch.2):

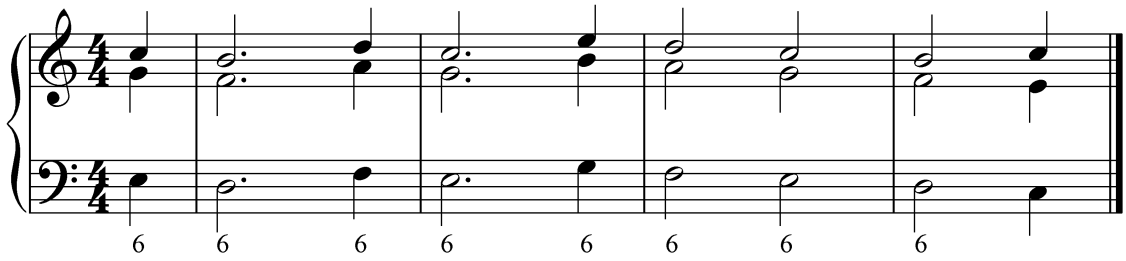
preparation - dissonance - resolution
=
consonance - dissonance - consonance

Note that the two lower parts are not affected by the appoggiaturas in the soprano.

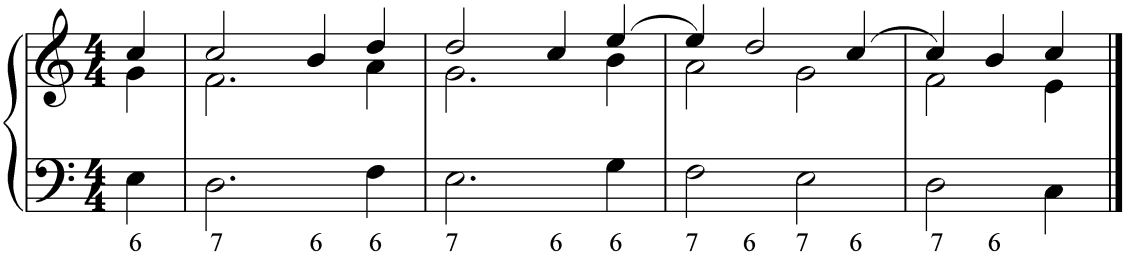
1. Play the above two sequences one after the other in the key of C, and repeat this in all major keys.[+]

[+] In transposing to other keys, follow the order of the circle of 5ths (see Part II p.9).

The next exercise is likewise based on a progression of 6-chords:

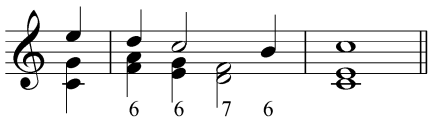


Here again, the soprano can be ornamented, while the other parts continue to move in parallel 3rds:

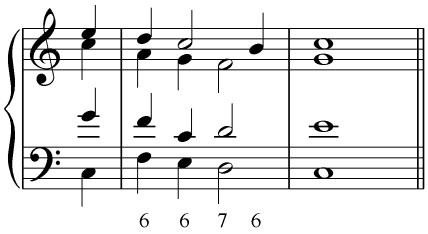


2. Play the above two phrases in the key of C, and repeat them in all major keys.

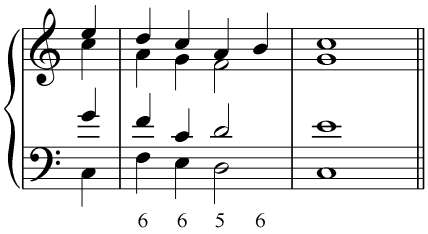
The three-part writing with which we commenced:



can now be expanded to include a fourth part:

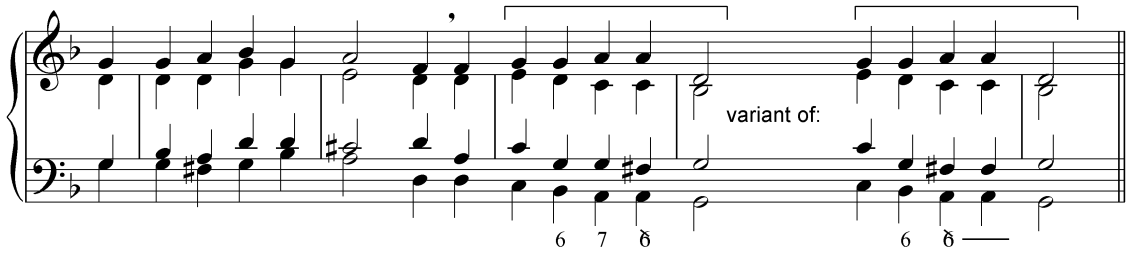


Before the final chord on the tonic, the dominant is absent. Nonetheless, the cadence in C major is unambiguous. This is due to the stepwise descent from D to C in the bass, while the soprano rises from the leading note B to the tonic C. Viewed vertically, the chord on the fourth beat is the 1st inversion of the diminished triad on VII, with B as its root. In horizontal terms, the leading note B has more the effect of ‘stretching’ the triad on II, as the following example illustrates:

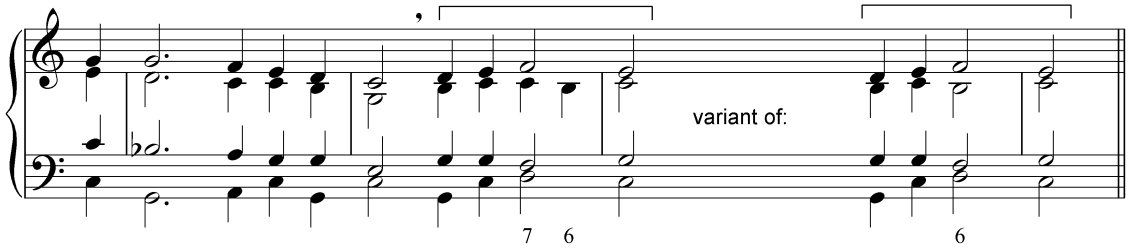


This progression was discussed and practised in Part II ch.12. Here are several examples from familiar chorales, all dating from around 1600:

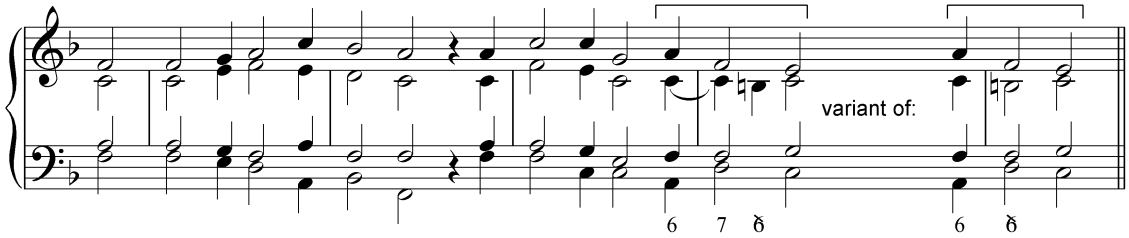
Michael Praetorius (1609) in *Von Gott will ich nicht lassen*:



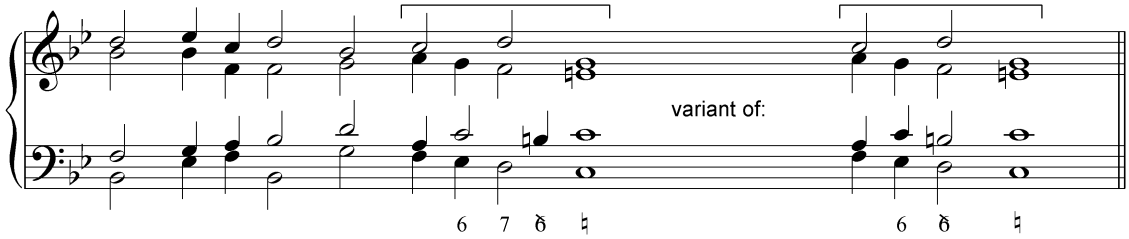
Jakob Praetorius (1604) in *Wachet auf, ruft uns die Stimme*:



Bartholomäus Gesius (1605) in *O Welt ich muss dich lassen*:

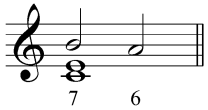


Seth Calvisius (1594) in *Allein zu dir, Herr Jesu Christ*):



From these and other examples we may draw the following conclusions on the use of the 7-chord in the early 17th century:

- The 7th is an embellishment of the 6th. The basis is therefore the 6-chord, which is why the 5th is omitted from the 7-chord:

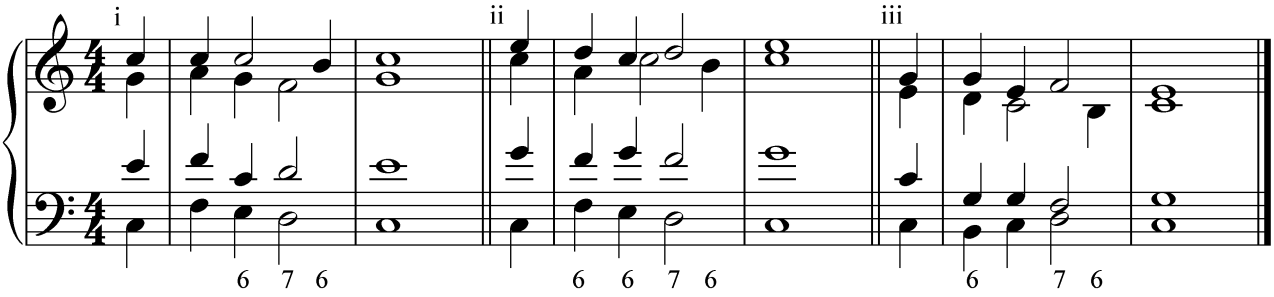


- The root and 3rd support the 7th. In four-part writing, the root may be doubled (as in Michael Praetorius and Calvisius), or the 3rd (as in Jakob Praetorius and Gesius).

EXERCISES:

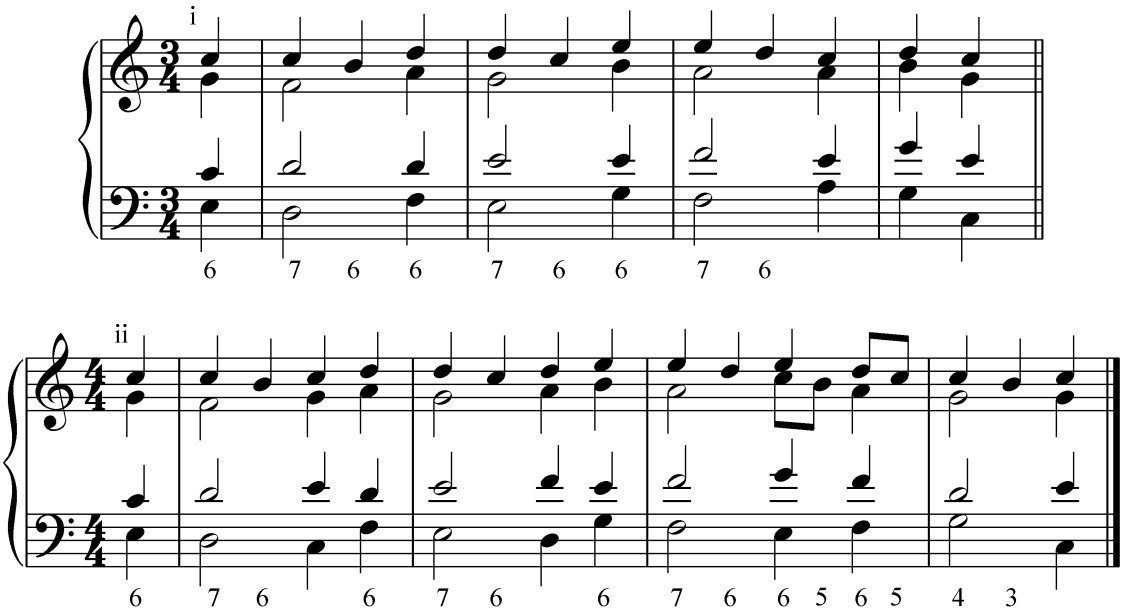
With only very few exceptions, the exercises in *The Lost Chord* are to be played with the three upper parts in the r.h. and the bass in the l.h. (see Part I ch.12).

3. Practise the following cadences in all major keys:



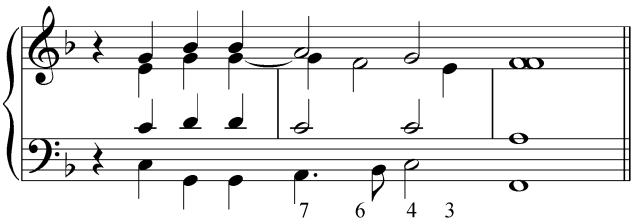
N.B.: in (i) the leap in the tenor from F to C (the mixed position) is necessary: stepwise movement from F to E and then on to the D would cause two sets of parallel 8ves between the tenor and bass.

4. Practise the following phrases in all major keys:



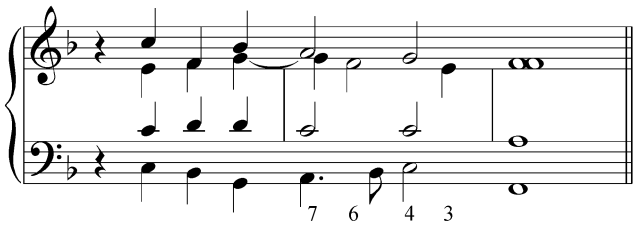
5.* Repeat ex.3 and 4 with a solo stop and pedals.[+]

Johann Crüger's *Zeuch ein zu deinen Toren* (1653) has the following final cadence:



[+] The exercises with an asterisk offer extra practice for organists able to play the pedals - see Part I ch.5 ex.5.

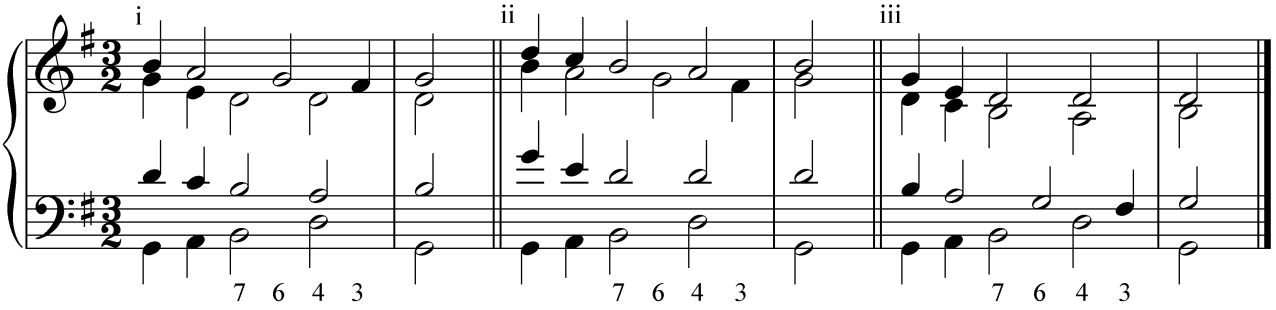
In this case, the 7-6 progression forms the approach to the V-I cadence. The 6th is both the resolution of the dissonant 7th and the preparation of the dissonant 4th. The close of Crüger's *Nun danket all und bringet Ehr* (also published in 1653) is identical:



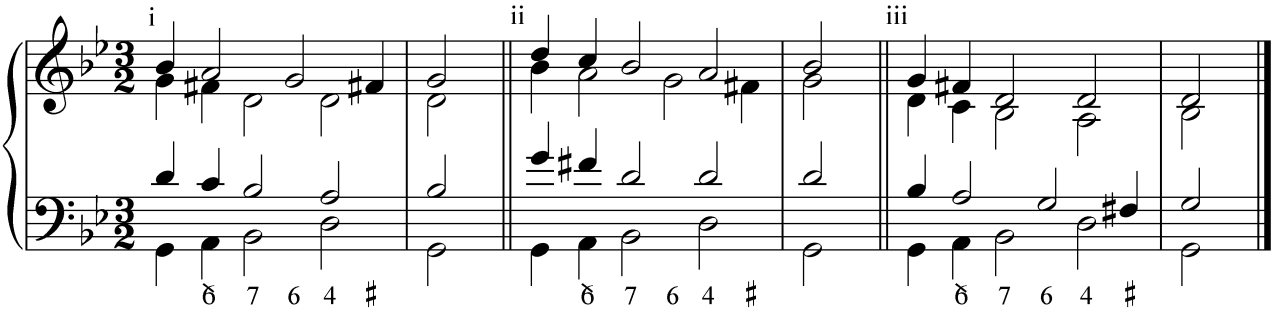
Is the dotted crotchet A in the bass the root of the 7-chord on III? Or do we hear the 1st inversion of the tonic triad of F major, in which the root in the alto is preceded by the appoggiatura G? Whatever the case may be, this ambivalence is fortunately of no consequence for the figured bass, in which we always count up from (and including) the bass, which may or may not be the root.

EXERCISES:

6. Practise the following cadences in all major keys:



7. Practise the following cadences in the minor keys of G, D, A, E, B, F sharp, F and C:



8.* Repeat ex.6 and 7 with a solo stop and pedals.

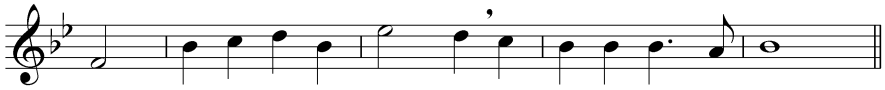
3

THE CHORD OF THE SEVENTH (ii)

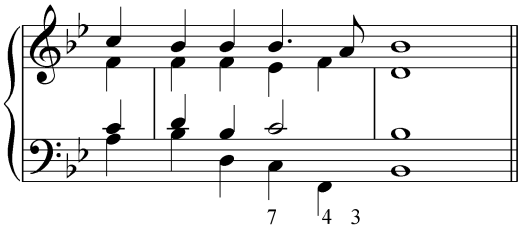
The three- and four-part 7-chord
The dominant-7-chord
Two-part inventions

The three- and four-part 7-chord

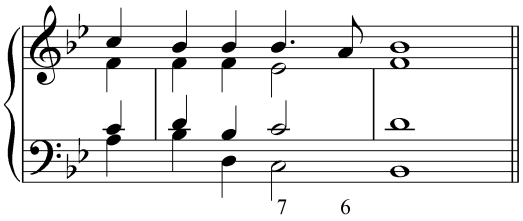
In the course of the 17th century, the 7-chord acquired a certain independence. In as far as the 7th occurred in early-17th-century chorales, it was mostly an appoggiatura preceding the 6th, above a bass moving by step.[+] More than fifty years later, in 1660, Georg Ebeling wrote his *Du meine Seele, singe*, the final line of which is:



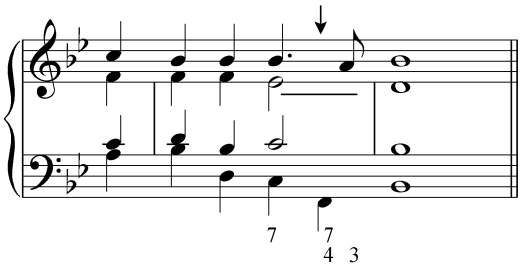
Ebeling harmonised the close of his own melody as follows:



After the 7-chord on II, the bass leaps to V, causing a 4-3-suspension in the soprano; the resolution of the 7th (the quaver A) is no longer a 6th, but the 3rd of the triad on V. Perhaps we can view this cadence, in 1660, as the modern, tonal alternative for:



Whatever the case may be, Ebeling's II-V-I cadence, in which the bass jumps to the dominant (creating the 4th and 5th leaps so characteristic of tonal basses) leaves no doubt as to the key of B flat major. It is worthy of note that the last crotchet in Ebeling's alto is an F, perhaps to avoid the following:

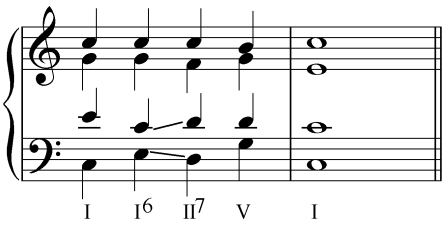


Could it be that the 7th on V - the so-called **dominant 7th chord** (here dominant-7-chord) - went one step too far for the mid-17th-century aesthetic of Ebeling?

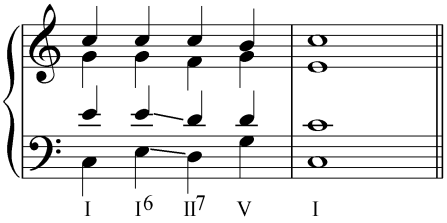
[+] In the mid-16th-century metrical psalm settings of Claude Goudimel, the 7-chord occurs exclusively as an appoggiatura to the 6th, and that in only 12 of the 150 harmonisations.

Doubling and parallel motion

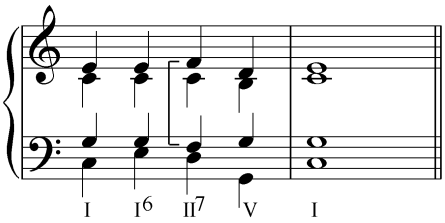
Viewed schematically in the key of C major, Ebeling's cadence is as follows:



The 7-chord on II consists of the doubled root, the 3rd and the 7th: without the 5th, therefore. Note also the mixed spacing of the 6-chord: the tenor falls to the root C, thus avoiding the following parallel 8ves between the tenor and bass:



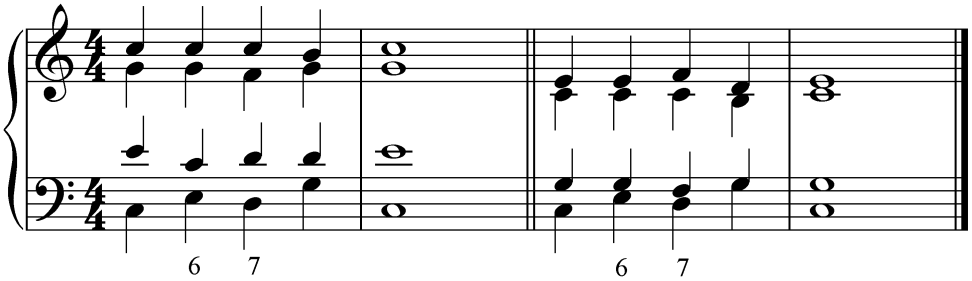
The 7th is not doubled; a test at the keyboard soon reveals that doubling of the 7th would dominate unpleasantly. (Doubling of other dissonances must also be avoided, not in the least because we cannot simultaneously resolve the same dissonance in two voices.)
As noted in ch.2, in certain circumstances we may double the 3rd of the 7-chord:



In this case, it is the minor 3rd which is doubled. Nevertheless, the preceding 6-chord does contain a doubled major 3rd.[+]

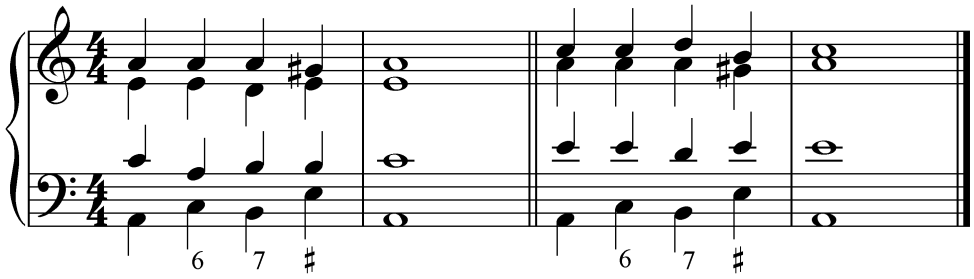
EXERCISES:

1. Practise the following cadences in all major keys:



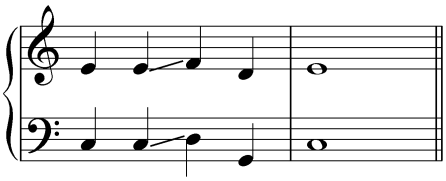
[+] The fact that the major 3rd was quite commonly doubled in the 17th century is largely, if not fully, explained by the then current meantone temperament, in which eight of the twelve major 3rds were tuned 'pure' (and sounded splendid!) at the expense of the other four, which were so badly out of tune that they could not be used. In later temperaments, this inequality was smoothed out in order to make all the major 3rds available; but some of them remained far from 'pure', and it became customary not to double them.

2. Play the same cadences in the minor keys of A, E, B, F sharp, D, G and C:

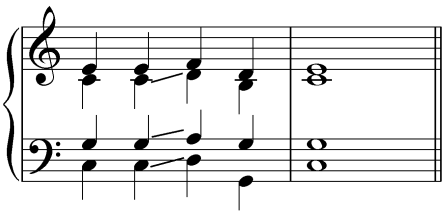


3.* Repeat the major and minor cadences with a solo stop and pedals.

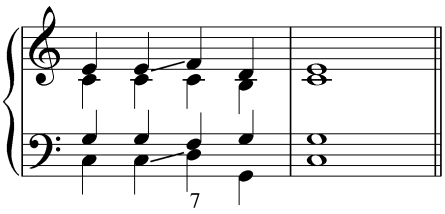
If, in the second major cadence in ex.1, we wish to avoid doubling the major 3rd in the 6-chord, we have a new and interesting progression at our disposal. Until now we have carefully avoided parallel 3rds between the outer parts:



In harmonisation in closed spacing, this parallel 3rd automatically causes parallel 5ths and 8ves:



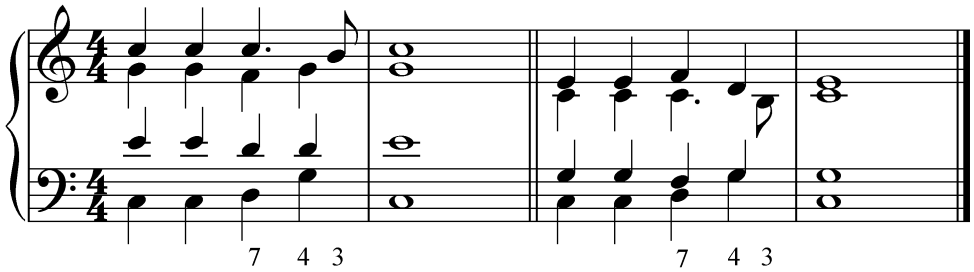
However, parallel 3rds between the outer parts are not forbidden; on the contrary, they can be used to create colourful progressions. In our example, use of the 7-chord on II enables us to employ parallel 3rds without causing parallel 5ths and 8ves (compare ch.2 ex.3.iii):



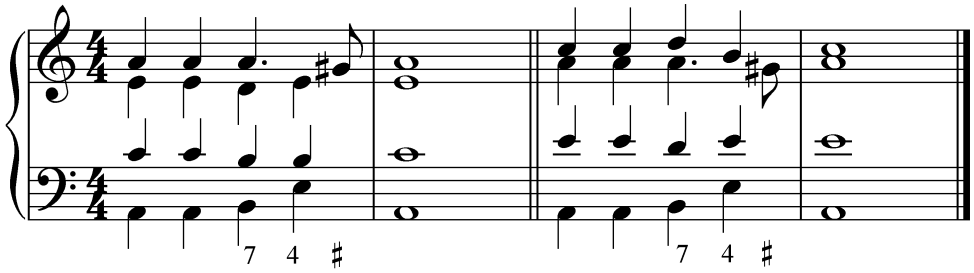
In all cases, the dissonant 7th is prepared and resolved. In terms of the above example: C on the third beat in the alto is the 7th above the bass. Because it is a dissonance, it is prepared on the second beat, where C is a consonance in the same part. After the dissonant 7th the alto falls to B, since the classical rules require a resolution in the form of a descending major or minor 2nd (see Part II ch.2.)

EXERCISES:

4. Practise the following cadences in all major keys:



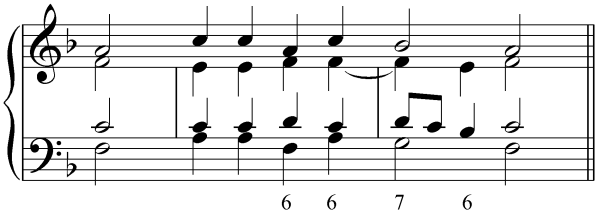
5. Play the same cadences in the minor keys of A, E, B, F sharp, D, G and C:



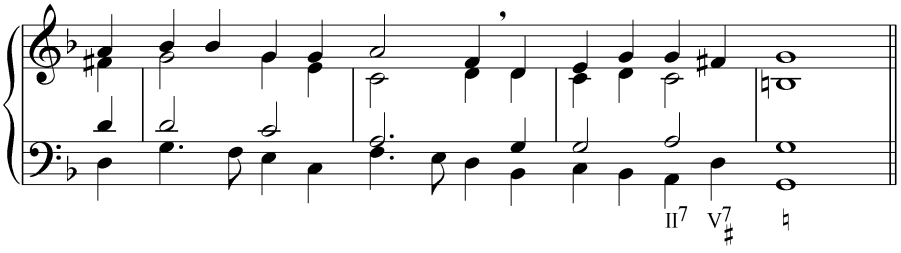
6.* Repeat the major and minor cadences with a solo stop and pedals.

The dominant-7-chord

If the 7th is an appoggiatura before the 6th, the 5th is often omitted in the 7-chord. Hassler does include it in his setting of *Wenn mein Stündlein vorhanden ist* (1608):

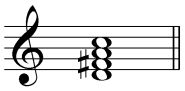


but he takes care to have his tenor move on quickly so as not to collide with the 6th in the alto. Similar situations are to be found in the settings by Crüger and Neumark on p.8-9. (By the way: would any of us have thought of the fourth chord in the quote from Hassler? How expressive is the 6th in the tenor!)
Ebeling's more independent use of the 7-chord on II in the approach to the V-I cadence (p.16) is rather common in 17th-century chorale harmonisations. The final cadence of Samuel Scheidt's *Von Gott will ich nicht lassen* (1650) is as follows:

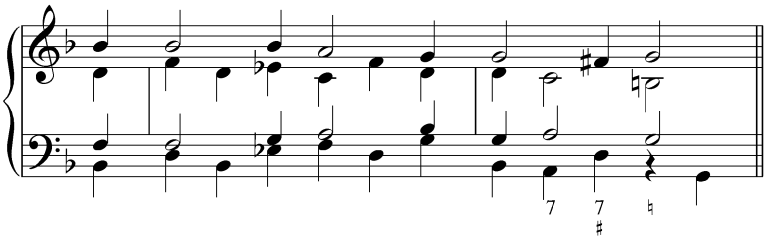


The 7th on II is resolved in the 3rd of the 7-chord on V; the 7th on V, in turn, is resolved in the 3rd of the final triad on the tonic. The bass leaps (by the 4th and 5th!) around a segment of the circle of 5ths. Since the 7-chords no longer resolve to the 6th, the 5th can now be accommodated, as in the second 7-chord.

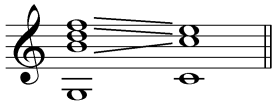
This second 7-chord - on V, the dominant - is the dominant-7-chord. The triads that we have employed until now comprise only three different notes, as the name triad implies; 7-chords, however, have four. (In German, the triad is called a *Dreiklang* - literally a 'three sound' - and the dominant-7-chord a *Vierklang* or 'four sound'.) The dominant-7-chord comprises the root (on V), the major 3rd (the leading note), the perfect 5th and minor 7th. The dominant-7-chord in the key of G major is therefore:



The dominant-7-chord is not widespread in 17th-century chorale harmonisations. Ebeling appears to avoid it in our example at the beginning of this chapter, but Scheidt used the above cadence (p.19) again in the third line of his setting of *Puer natus in Bethlehem*, likewise dating from 1650:



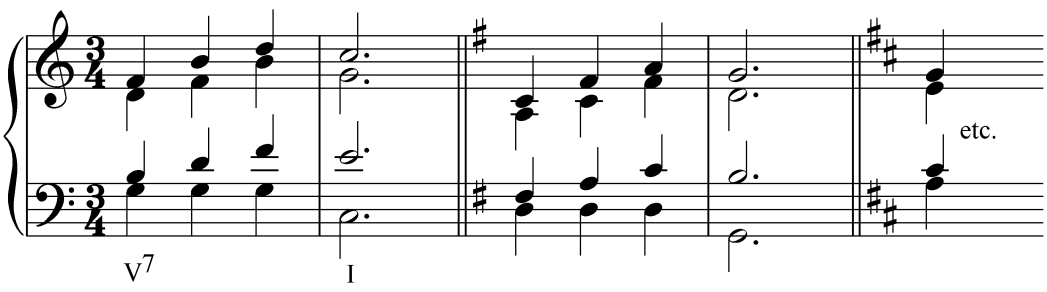
From our very first cadence exercises it became clear that the V-I progression is the anchor of the major and minor tonal system, which is the foundation of all classical music of the 18th and 19th centuries. If we add the 7th to the major triad on V, not only does the tension on the dominant increase, but the relaxation on the tonic as well, accentuating all the more the pivotal balance of power between the dominant and tonic in our tonal system:



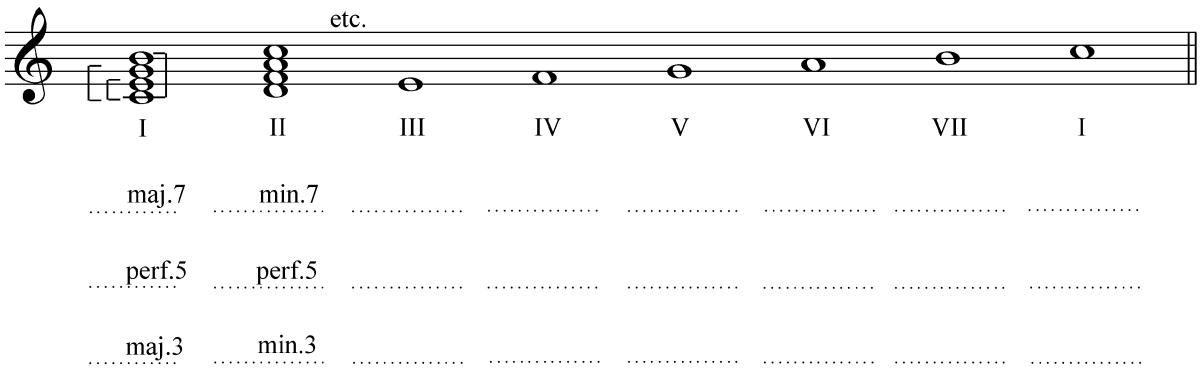
In the major scale we discovered the ascending and descending 'pulling power' of the individual notes in relation to the tonic (Part I p.7, Part III p.10). The progression from the dominant-7-chord to the tonic combines the pulling power of no less than three of these notes: F pulls towards E, while D and the leading note B both pull towards C; the bass rises by a 4th or falls by a 5th. All that can hardly leave any doubt about the key!
As the use of the 7-chord - and particularly the dominant 7th - increased in the course of the 17th century, the tonal system of our Western culture became established once and for all - or let us say until about 1900! Ultimately, the 7-chord had not only the potential to reinforce the tonal system, but also to destroy it - but that's another story...

EXERCISES:

7. Practise the following positions of the dominant 7th in all major keys. Despite the above remark about the pulling power of the leading note to the tonic, in four-part writing the leading note frequently falls to the 5th of the tonic triad.



8. Play a 7-chord on each degree of the scale of C major. Write down the chords and note under each the type of 3rd, 5th and 7th as indicated:



9. Answer the following questions:

a. On which degrees is the 7th between the outer parts major?

.....

b. On which degrees is the 3rd between the bass and tenor major?

.....

c. On which degrees is the 7th between the outer parts minor?

.....

d. On which degrees is the 3rd between the bass and tenor minor?

.....

e. On which degrees is the 5th between the bass and alto diminished?

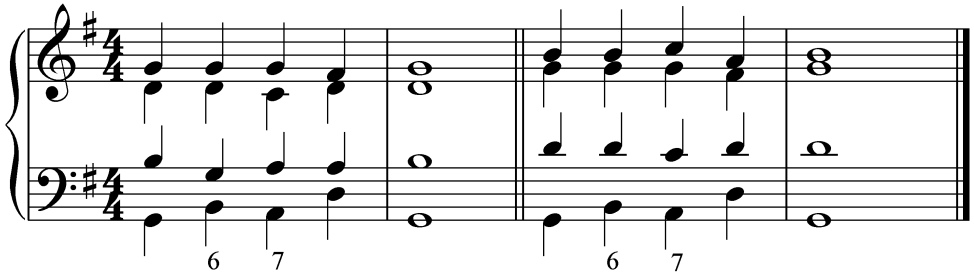
.....

f. On which degrees is the 5th between the tenor and soprano diminished?

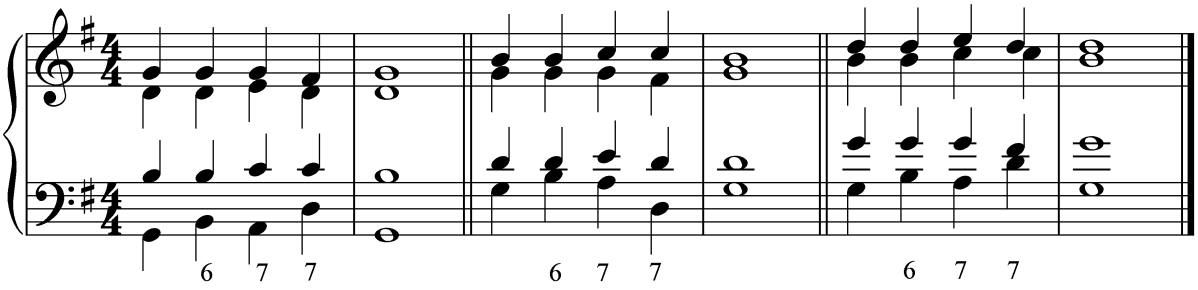
.....

10. Play the 7-chords again and listen to the effect of the different 3rd, 5th and 7th intervals.

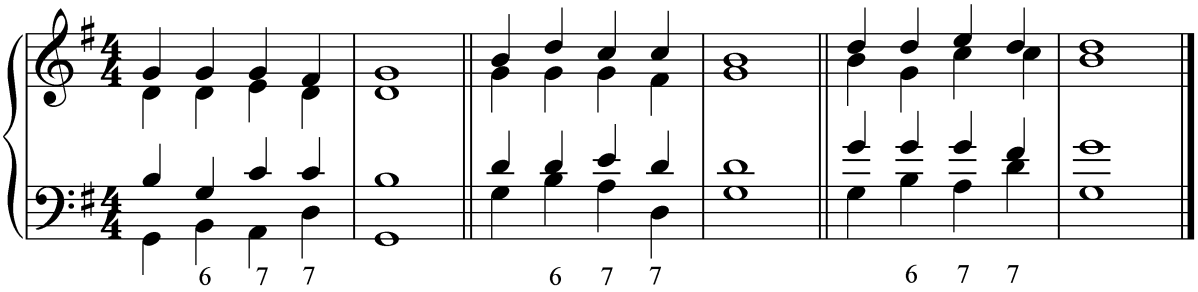
The cadence in the first exercise of this chapter:



can now be played with the complete 7-chord on II, i.e. including the 5th; it is now followed by the dominant 7th (in which the 5th is omitted to facilitate smooth part writing):



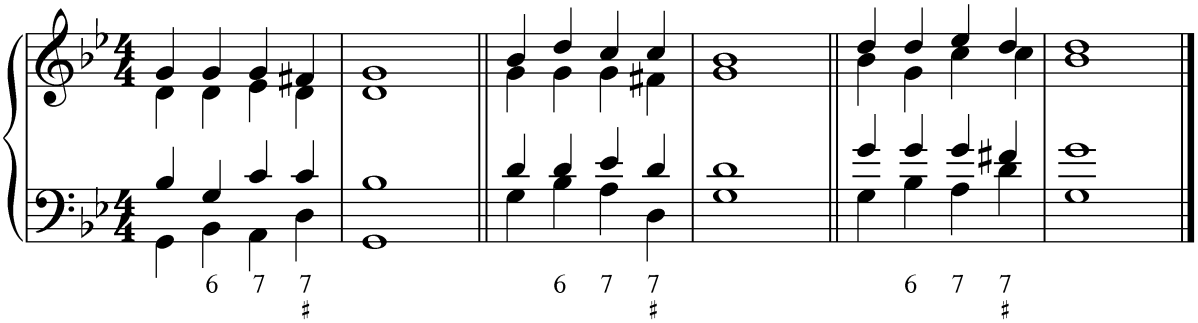
The root of the 6-chord, rather than the 3rd, may be doubled:



EXERCISES:

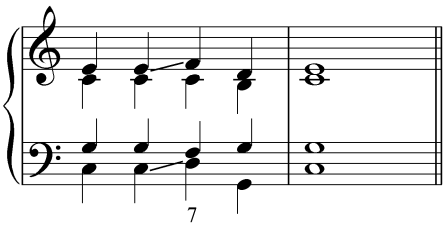
11. Practise the above cadences in all major keys.

12. Play the following cadences in the minor keys of G, D, A, E, B, F sharp, F and C:

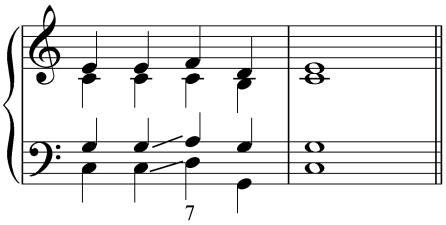


13.* Repeat ex.11 and 12 with a solo stop and pedals.

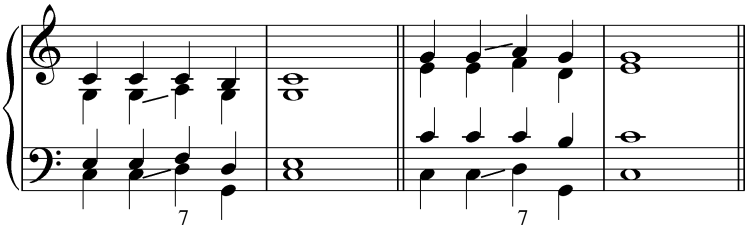
In the above cadences, it is not without reason that the 7-chord on II is preceded by I in the 1st inversion. On p.18 we allowed the bass to rise from the root position in parallel 3rds:



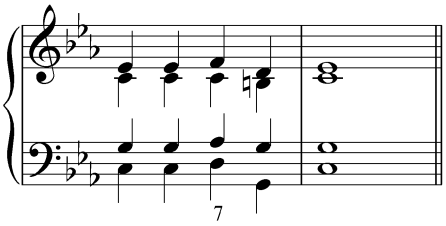
Adding the 5th to the 7-chord, however, would cause a parallel 5th with the tenor:



as it would with the alto or soprano in other positions:

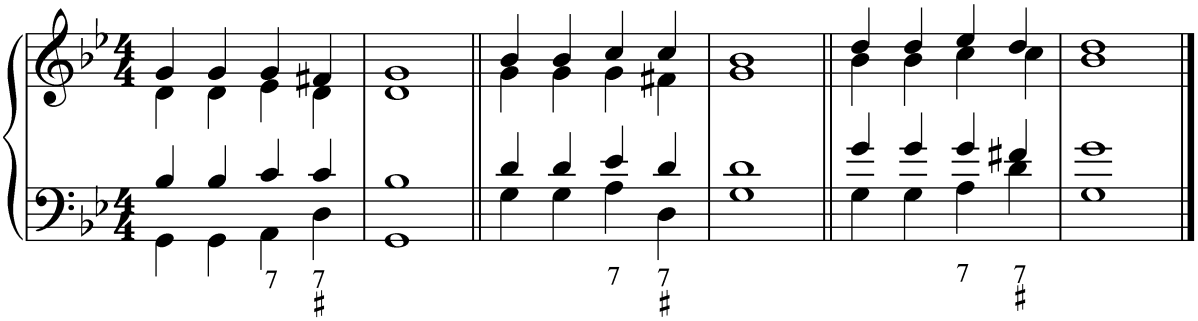


In the minor key, however, this progression is possible, since the 5th in the 7-chord is diminished and the consecutive 5ths therefore permissible:



EXERCISES:

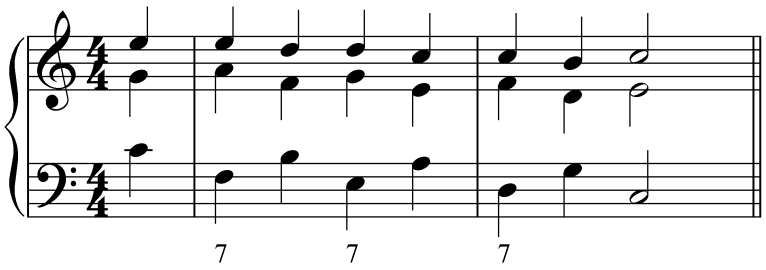
14. Practise the following cadences in the minor keys of G, D, A, E, B, F sharp, F and C:



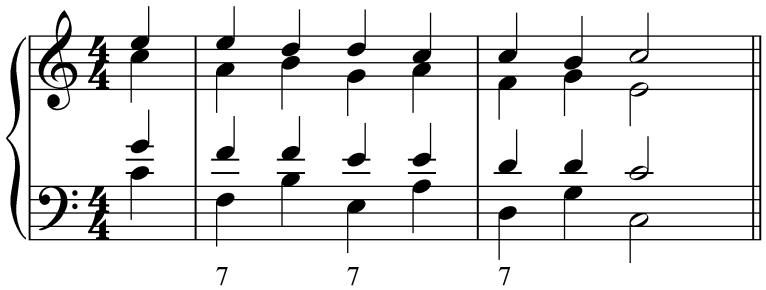
15.* Repeat these cadences with a solo stop and pedals.

16. Practise the following sequences in all major keys:[+]

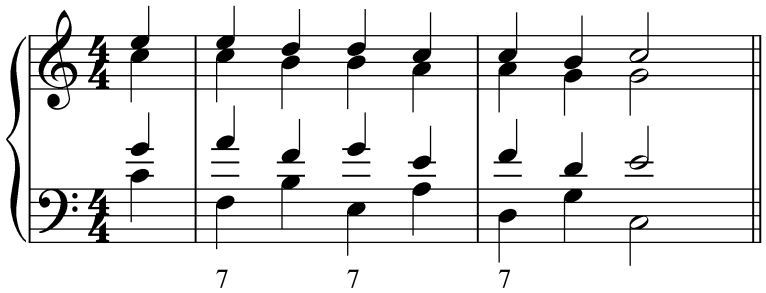
(i) three-part:



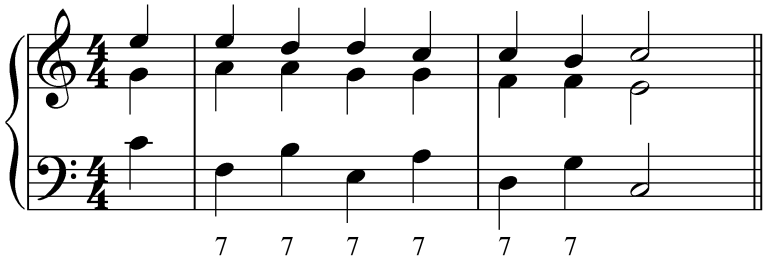
(ii) four-part without the 5th in the 7-chord:



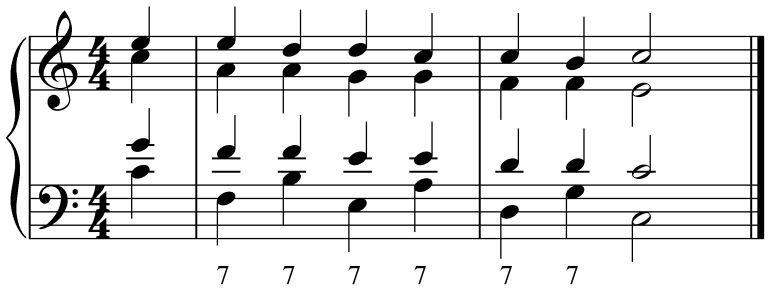
(iii) four-part with the 5th in the 7-chord:



(iv) three-part:



(v) four-part:

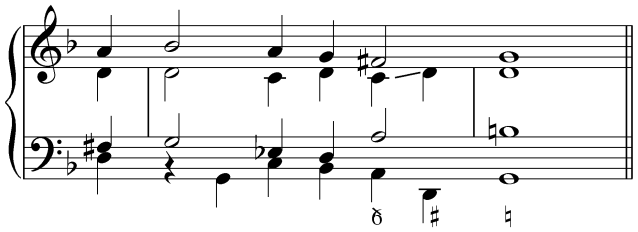


[+] Although the diminished triad in root position is hardly found in chorale harmonisations (see Part II ch.12), it does occur in sequences because of the consistent repetition of the chord progression (even if this results in doubling of the leading note).

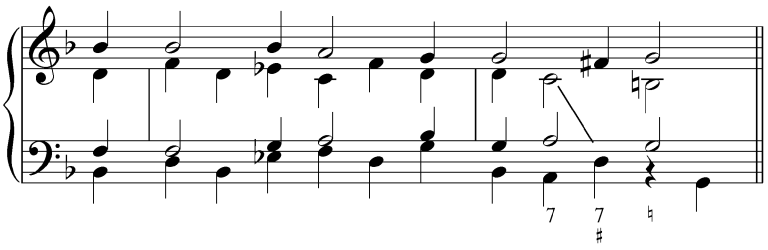
In this last sequence (v), the 7-chords on the uneven beats have no 5th, while those on the even beats do. In this manner, all 7ths resolve to the 3rd of the next chord.

17.* Repeat the sequences with a solo stop and pedals. For the more adventurous organist: play the three-part sequences as trios on two manuals and pedal.

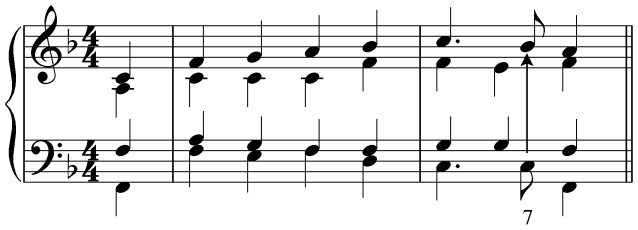
At the beginning of this chapter we observed how Ebeling, in 1660, seemed to take trouble to avoid the dominant 7th. Ten years before, Scheidt did exactly the same at the close of his setting of *Puer natus in Bethlehem*:



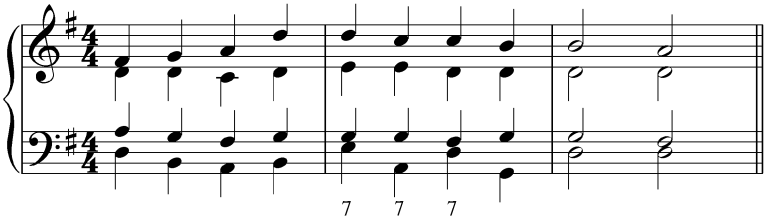
Nonetheless, the dominant 7th was already current, and we must exercise caution in drawing conclusions. Any choice of chords and chord progressions was, and is, a question not only of rules but also of taste. There is quite some difference, for example, between the 7th in an inner part, as Scheidt employed it in the previously quoted third line of *Puer natus in Bethlehem*:



and the 7th as a melodic element, as in the later chorale *Was Gott tut, das ist wohlgetan,* dating from 1690:



One hundred years further on, in 1784, Christian Gregor wrote the following in his setting of *Herr und Ältster deiner Kreuzgemeine*:

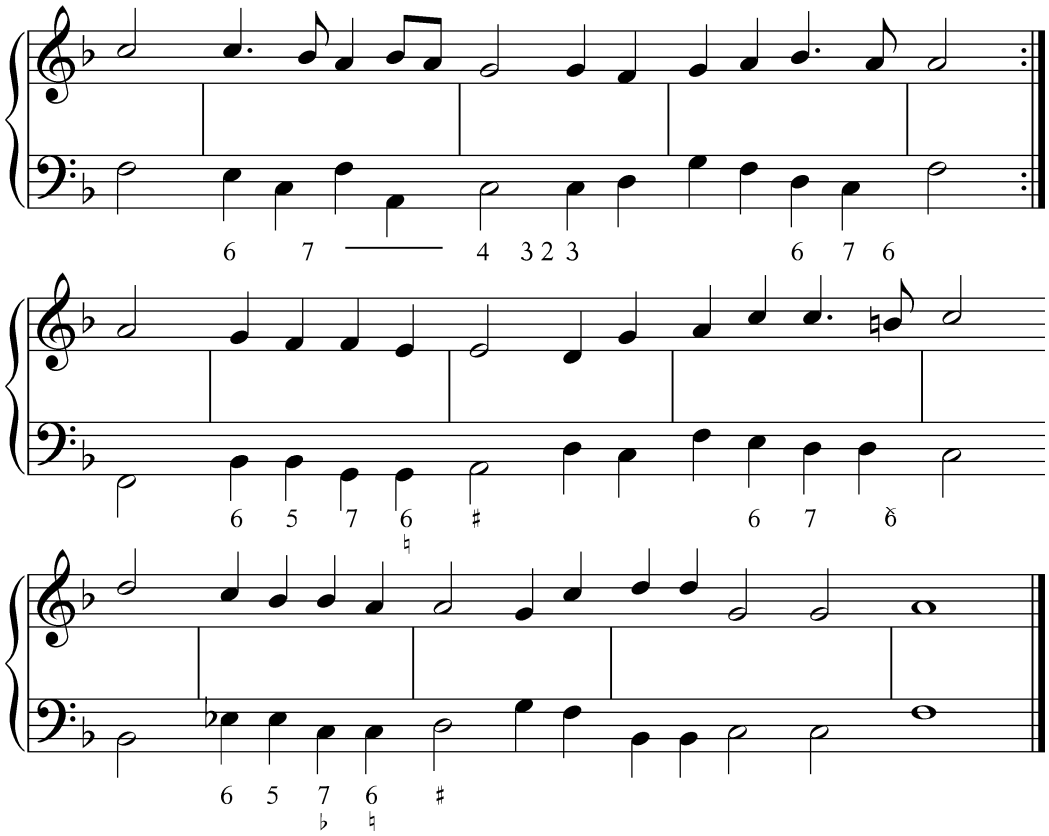


The manner in which the 7-chord was employed in hymns and chorales in the 17th and 18th centuries is quite diverse. Our own (organist's?) ear is strongly determined by 19th- and 20th-century harmonisations, in which the 7-chord often has a prominent place. A certain caution - and a degree of taste - is therefore required in order to avoid harmonising everything in the same way, like an artist always using the same colours. So let us not take exercises in sequential 7ths as our example...

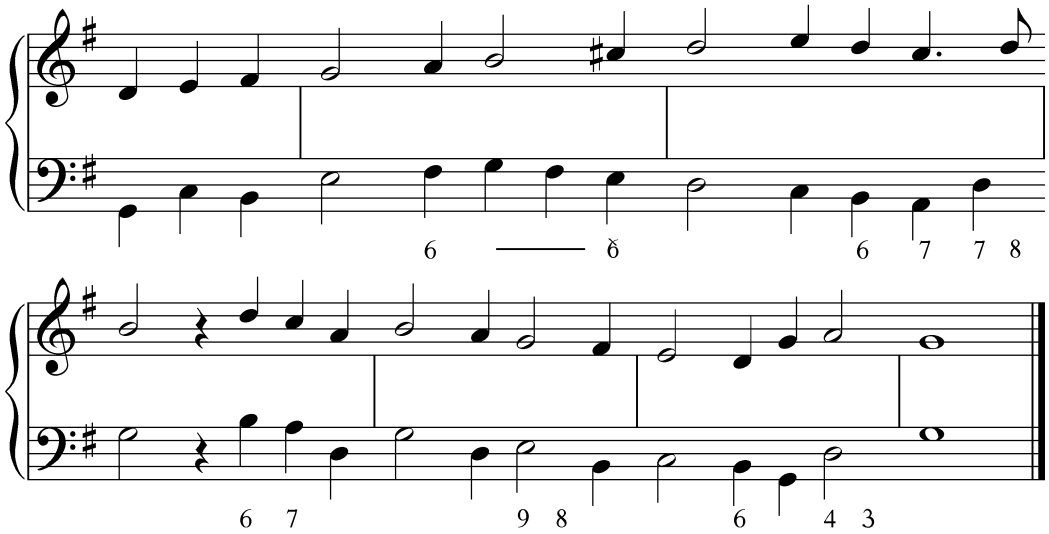
EXERCISES:

18. Play the following chorales in four parts:

(a) *Herr Jesu, Licht der Heiden*



(b) *Gen Himmel aufgefahren ist*

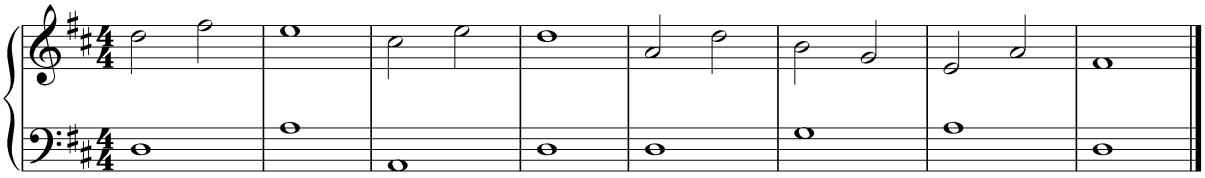


19.* Repeat the chorales with a solo stop and pedals.

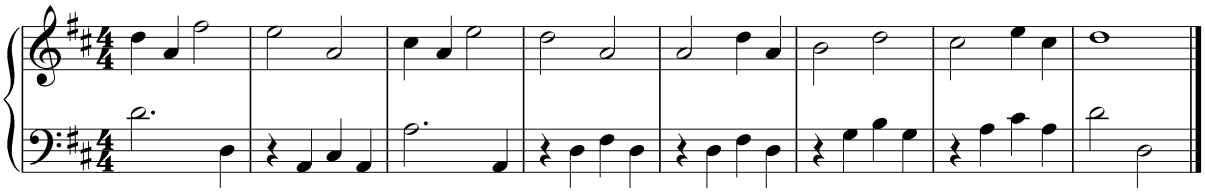
20. Practise the following transpositions: *Herr Jesu, Licht der Heiden* in G and E flat major, *Gen Himmel aufgefahren ist* in F and A major.

Two-part inventions

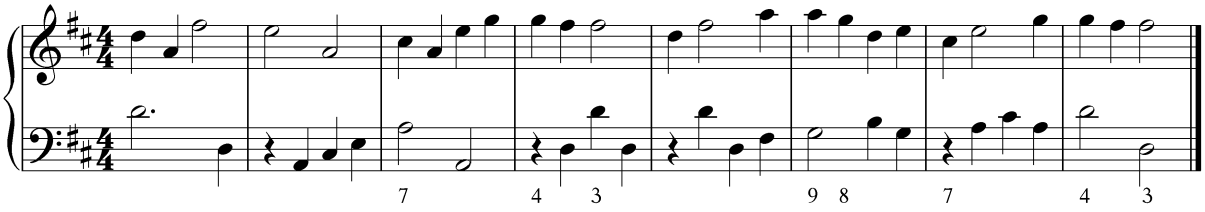
Let us return to our two-part *inventions*, which we commenced in ch.5 of Part II. In ch.11 (p.60), the following scheme:



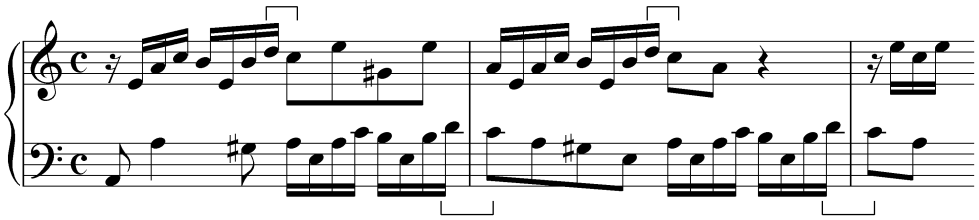
formed the basis for this little invention:



Using no more than the notes of the triad, we can create countless inventions with the aid of octave leaps, note repetitions, rhythmical figures and rests. To the triad in the root position and first inversion we can now add the dominant 7th. And the 4-3 and 9-8 suspensions allow us to throw in some herbal flavouring! The above example can therefore be elaborated as follows:



The 4-3 and 9-8 suspensions are still carefully prepared. The 7th, in this instrumental context, may be treated more freely - see the remarks on p.60-61 of Part II. J.S. Bach's 13th *Inventio* begins as follows:

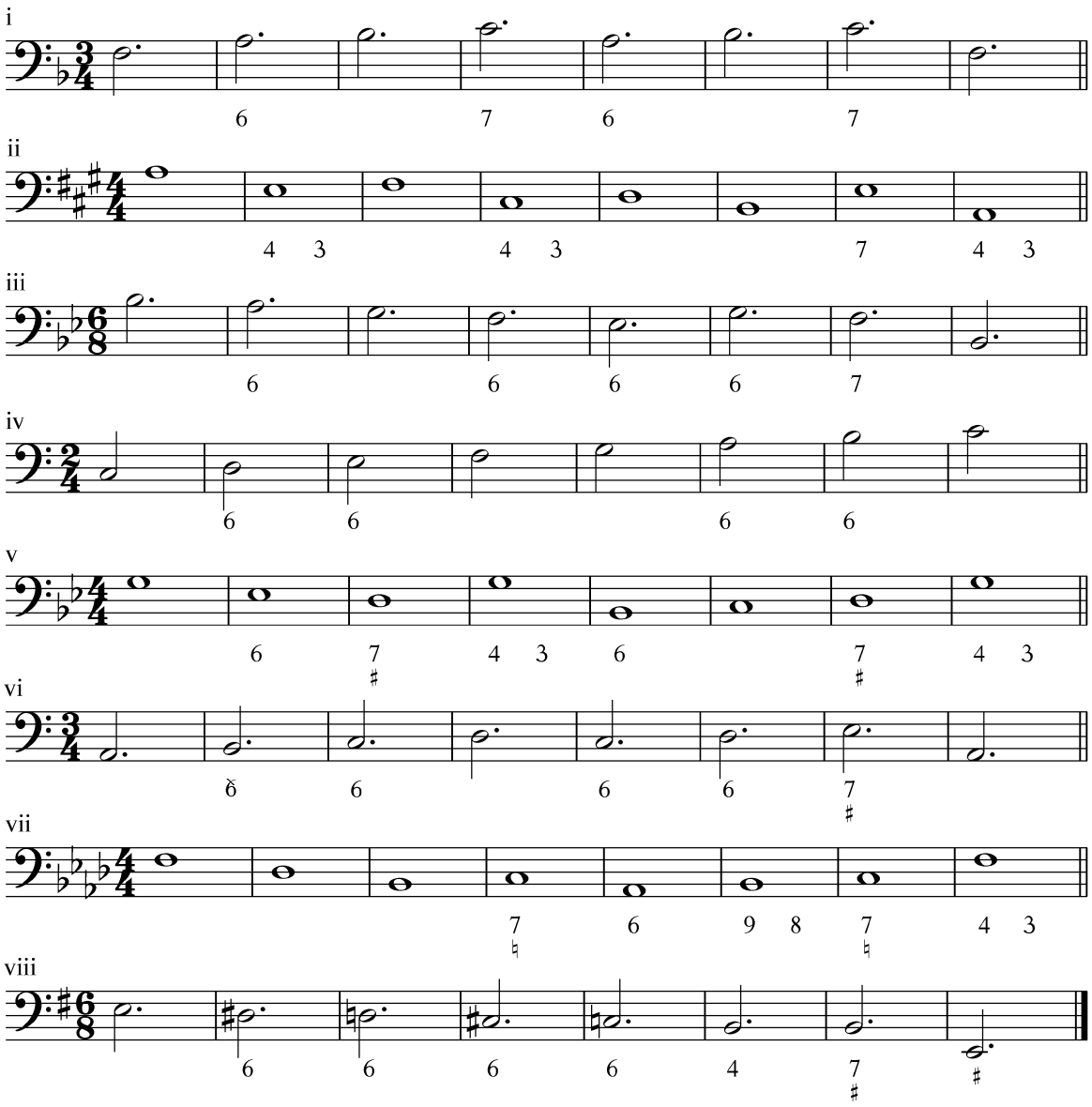


The unprepared 7th fits quite naturally into Bach's arpeggio-like figuration. However, the tension of the 7th is still resolved in the normal manner: the dominant 7th falls to the 3rd of the tonic triad. When the 7th is in the bass, it is therefore followed by the first inversion of the tonic triad.

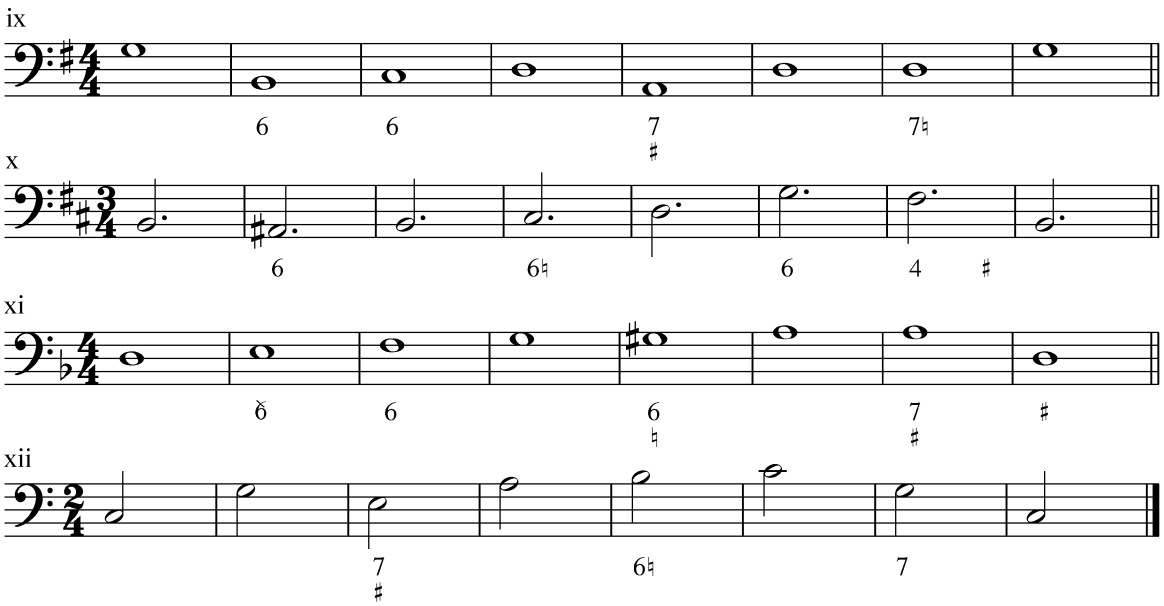
EXERCISES:

21. Improvise two-part inventions based on the following schemes. Do not deviate from the given chords, and try to create a dialogue between two parts of equal interest. The figures refer to the bar as a whole: a 7 therefore indicates that the 7th should sound somewhere in the bar (in one or both parts). On which beat a suspension is resolved, the player may decide for himself. Do avoid trying to remember one particular 'solution' to a scheme and then practising it as if it were a composition!

Commence each time with a new idea: by trial and error we can really begin to improvise!



The following inventions contain brief modulations:



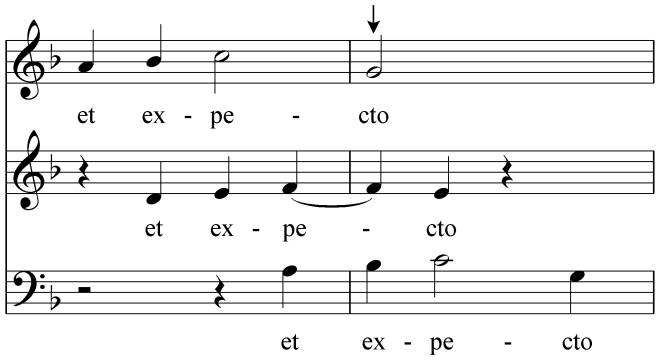
4

THE SIX-FIVE-CHORD

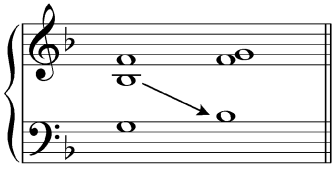
The three- and four-part 6-5-chord
Figured bass - a question of adding up
Two-part inventions

The 6-5-chord in three-part writing

In polyphonic music of the Renaissance, the course of the individual voices is so important that there is mention of a refined balance between the part writing on the one hand and the harmonic progressions on the other. In ch.1 we spoke of these horizontal and vertical aspects of music.
In a late example of such polyphony, from the Credo of William Byrd's *Mass for Three Voices* (ca. 1593/4), the voices imitate one another as follows:

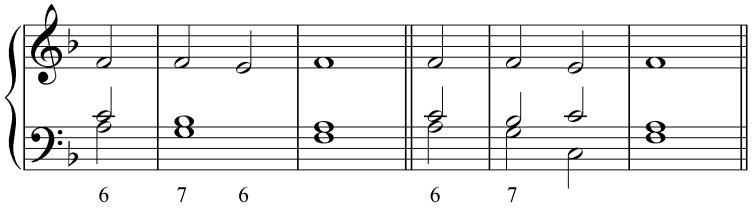


The indicated dissonance arises through a seemingly inevitable concurrence of horizontal movement, as it were. Vertical analysis, however, reveals the 1st inversion of the 7-chord:

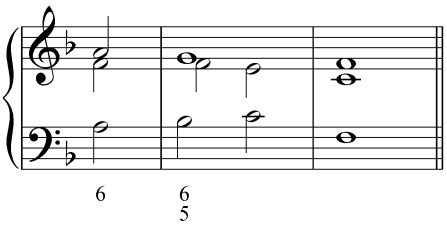


The 3rd of the 7-chord is now in the bass; the root G is in one of the upper parts.

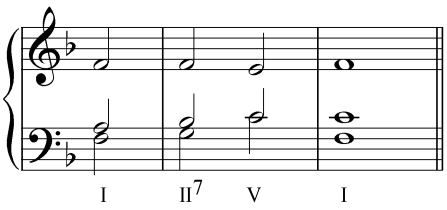
In the previous chapters, the 7-chord in root position was resolved as follows:



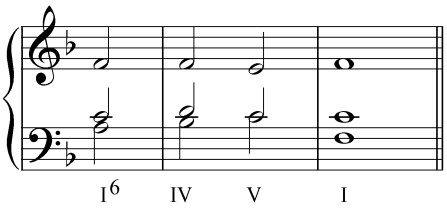
with the help of the **6-5-chord** we can now approach the cadence with rising, stepwise movement in the bass:



This progression raises an interesting question: on which degree of the scale is the above 6-5-chord based? On the one hand, we may analyse this chord as the 1st inversion of the 7-chord on II:



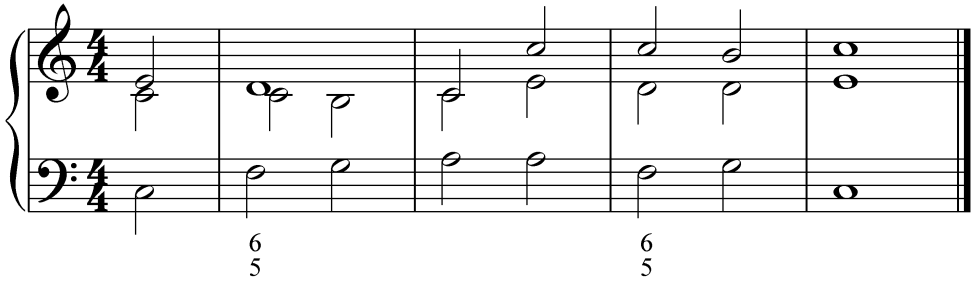
On the other hand, we could consider the 6-5-chord as the triad on IV, to which the note G has been added:



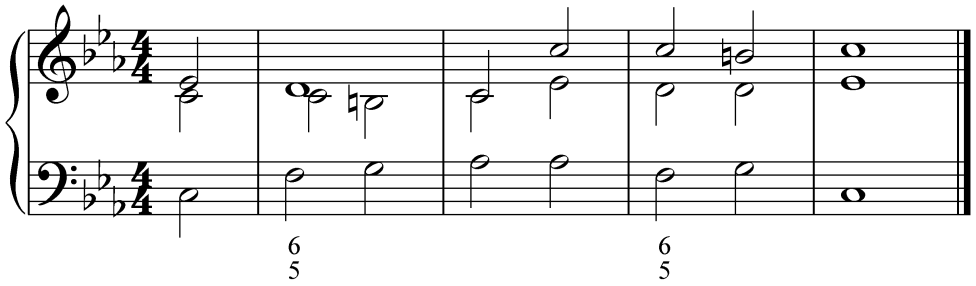
In our hesitation, we are in the distinguished company of theorists and composers who have struggled to answer the same question concerning what is known as 'the added 6th'.[+] Here again, the answer depends on whether one adopts a horizontal or a vertical approach. Whatever the case may be, it serves here as an example of the fact that chords and progressions can often be analysed in different ways.

EXERCISES:

1. Practise the following progression in all major keys. The second 6-5-chord is in open spacing (see Part I ch.12).

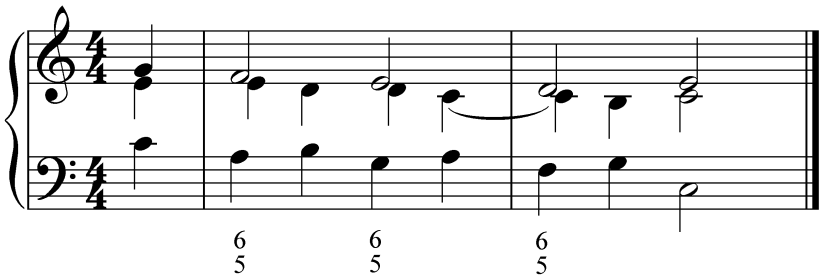


2. Repeat this progression in the minor keys of C, G, D, A, E, B, F sharp and F:

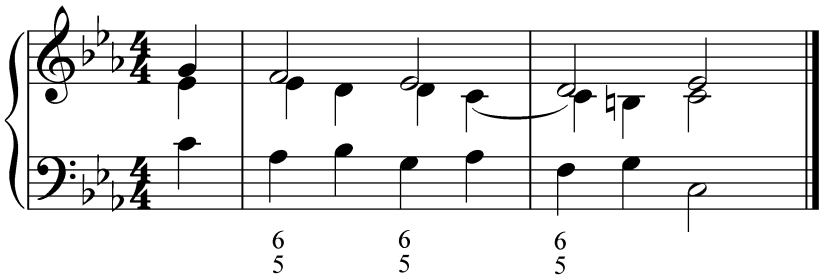


3. Practise the following sequence in three parts in all major keys:

[+] The added 6th (*sixte ajouté*) was already discussed by Jean-Philippe Rameau, for example, in his *Génération harmonique* (1737).

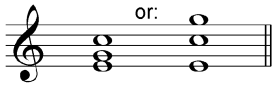


4. Repeat the sequence in the minor keys of C, G, D, A, E, B, F sharp and F:

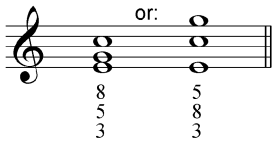


Figured bass - a question of adding up

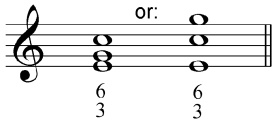
The terminology of figured bass sometimes causes confusion; before we proceed, this is a suitable moment to clarify one or two matters. When the 6-chord was discussed in Part II, an important distinction was made between the root and the bass. In the 6-chord, the root of the triad no longer sounds in the bass, but is replaced there by the 3rd of the triad. Above this bass, we hear the 5th and root of the triad:



The unsuspecting reader might think that the 6-chord can be figured in the following manner, taking the triad in its original root position as point of reference:



This would be a misunderstanding. The figured bass of the Baroque era was nothing more than a question of adding up from the written bass - not from the root of the triad. We are dealing with a figured bass, not a figured root. Generally speaking, the distribution of the parts above the bass is free. The complete figuring of the 6-chord is therefore as follows:[+]

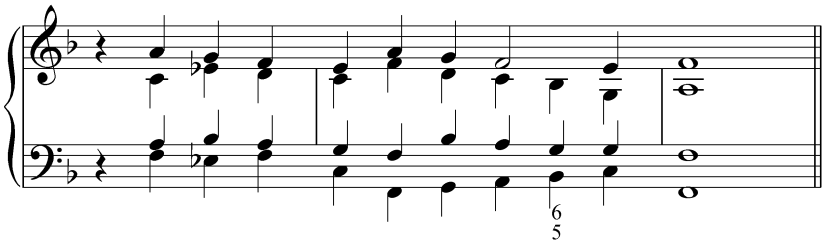


Here, adding up from the bass means that the 5th of the triad is described as “the 3rd above the bass” and the root as “the 6th above the bass” - which can sometimes be confusing.

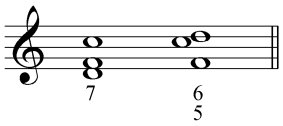
[+] According to the rules of figured bass, however, the 3rd above the bass is taken for granted unless expressly stated - see Part I ch.14. The 6-chord, therefore, is normally indicated only by the number 6.

The 6-5-chord in four-part writing

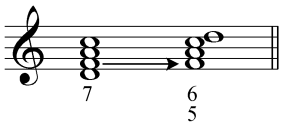
Let us return to the great William Byrd. In the example from his Mass (and in the above exercises), the 3rd above the bass is absent in the 6-5-chords. In *Ach bleib bei uns, Herr Jesu Christ*, a chorale harmonisation from the same period (1594) by Seth Calvisius, the same occurs:



The omission of the 3rd above the bass in the 6-5-chord corresponds to the absence of the 5th in early applications of the 7-chord:

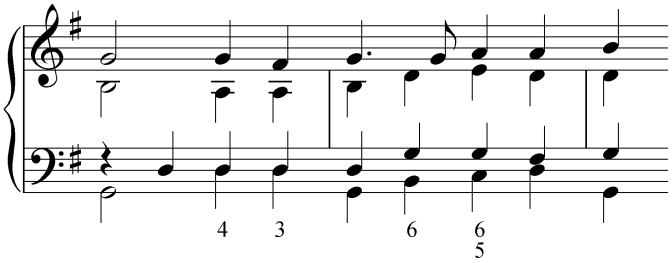


In most 17th-century harmonisations, however, the 6-5-chord is a *Vierklang*, as the Germans say, i.e. with four different notes:



The root of the 7-chord is in one of the upper parts, depending on their distribution; in the bass we hear the 3rd of the 7-chord.

In this form - as 1st 'inversion' - the 7-chord was frequently employed in 17th-century chorale harmonisations, and indeed much more frequently than in the root position. Here is a well-known example from the opening of Tallis's Canon, as harmonised in 1621 (with the 6-5-chord in open spacing):

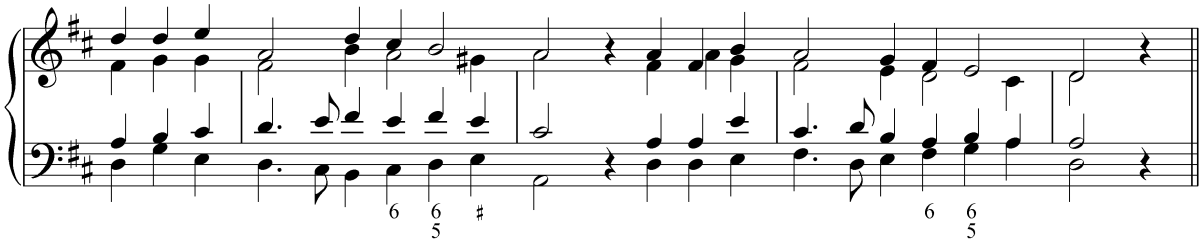


It offers a good illustration of common characteristics of the 6-5-chord:

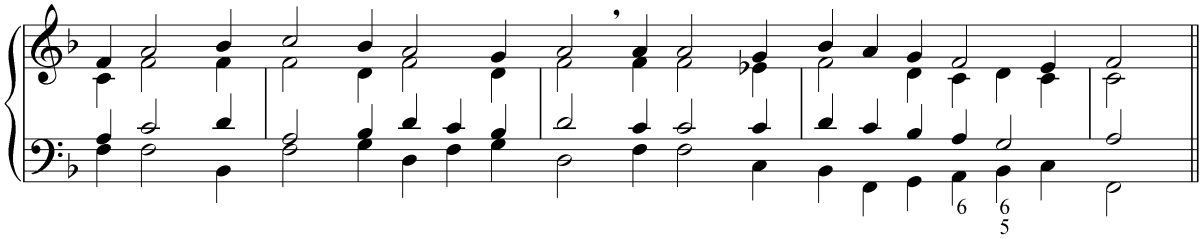
- The 6-5-chord can be viewed as the 1st inversion of the 7-chord (in this case on II).
- The 6-5-chord is normally a *Vierklang* and therefore requires no doubling in four-part writing.
- The 6-5-chord on II is often preceded by the 1st inversion of the tonic and succeeded by the V-I cadence.

These are almost standard characteristics of the 6-5-chord in 17th-century chorales.

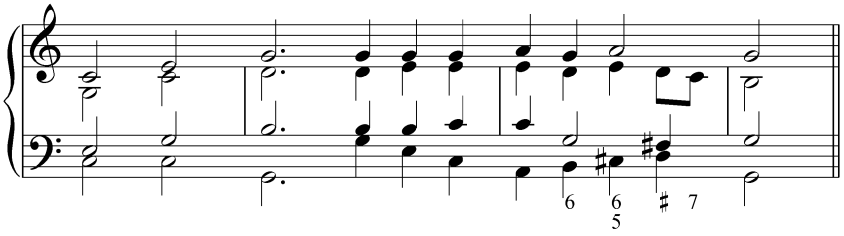
The second and third lines of *Gelobt sei Gott im höchsten Thron* by Melchior Vulpius, published in 1609, provide examples of the 6-5-chord in closed spacing:



In Michael Praetorius's setting of *Allein Gott in der Höh sei Ehr,* dating from 1607, the parts lie further apart in mixed spacing:

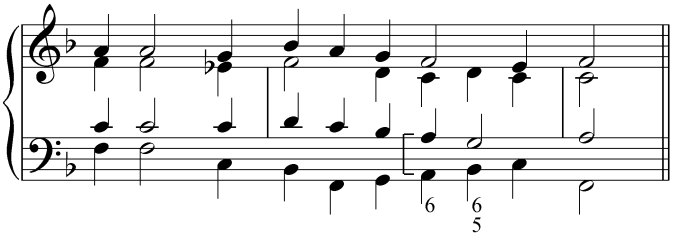


Jakob Praetorius, finally, puts us slightly on the wrong track in his earlier-quoted setting of *Wachet auf, ruft uns die Stimme,* dating from 1604:

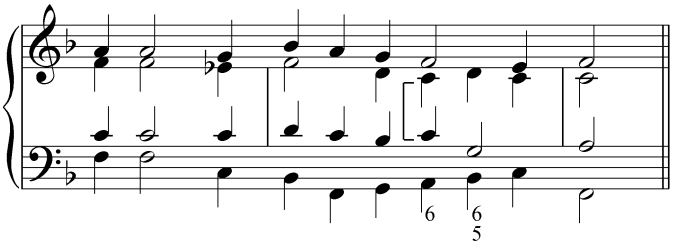


Praetorius raises the bass of the 6-5-chord to C sharp as if to modulate to D major, only to proceed directly to a cadence in G. A hundred years later, in the first half of the 18th century, this colourful chromatic alteration was a common feature of the harmonic language.

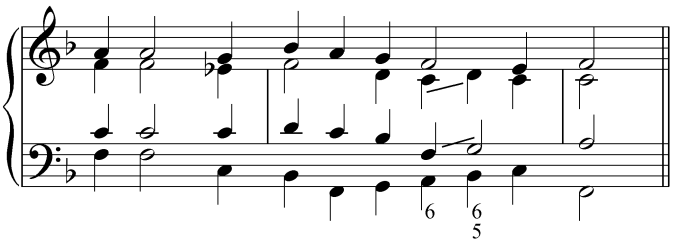
In the second phrase of the example by Michael Praetorius (*Allein Gott*), the part writing deserves closer analysis:



In the 6-chord, the tenor doubles the bass (the 3rd of the major triad). Praetorius could have doubled the alto (the 5th of the triad), but the tenor would have flowed less smoothly and the texture would have been thinner:

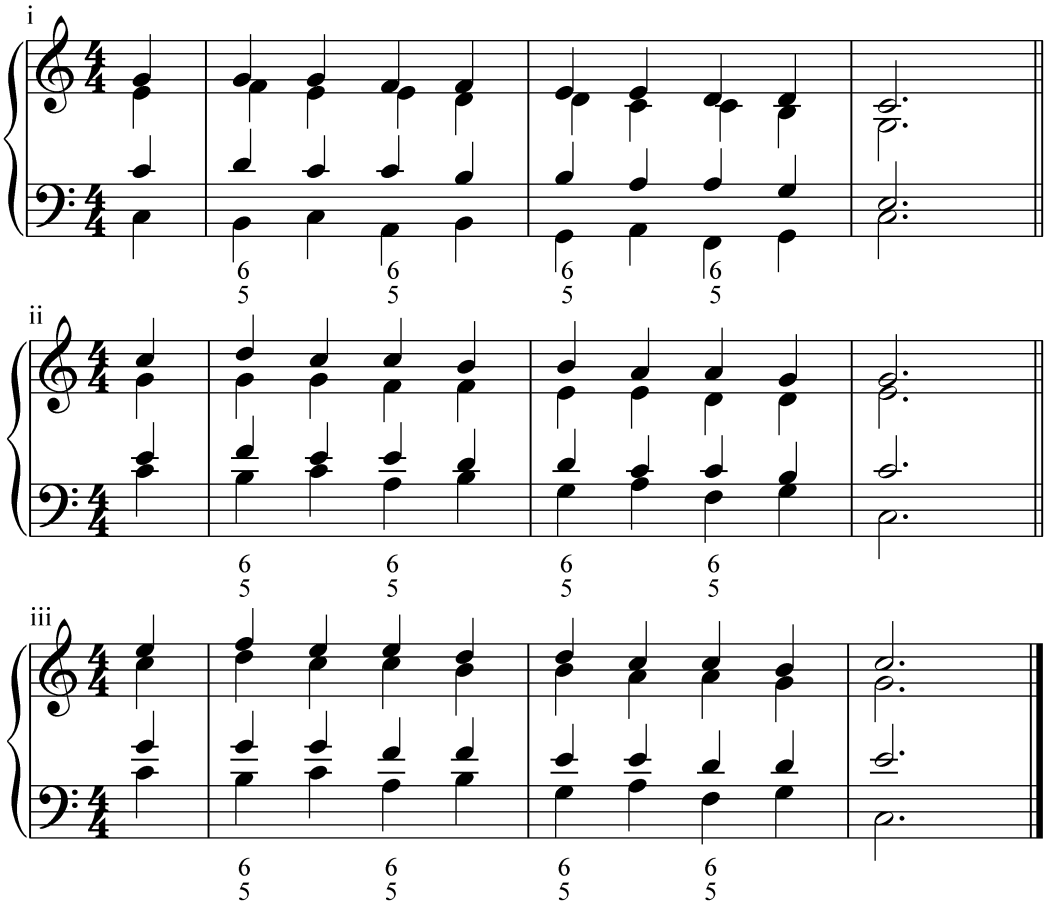


It is easy to see why Praetorius at any rate avoided doubling the root of the 6-chord:



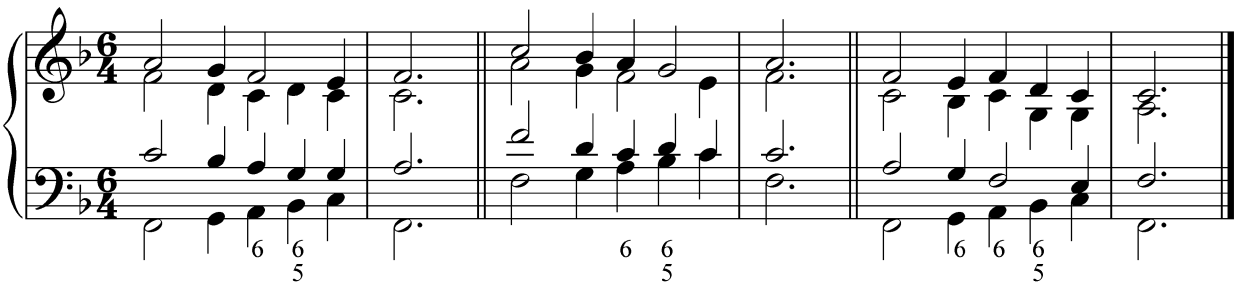
EXERCISES:

5. Practise the following four-part sequences in all major keys. The root of the 6-5-chord is in the soprano (i), alto (ii) or tenor (iii). The bass of the 6-5-chord is by definition the 3rd above the root.

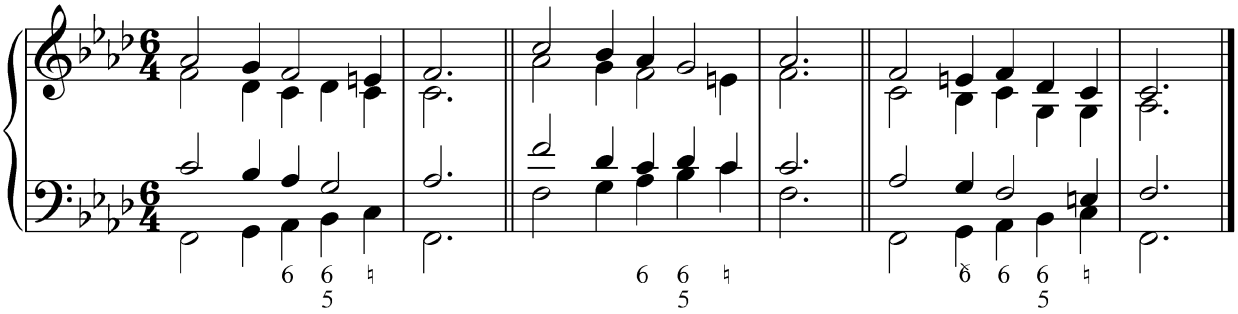


6.* Repeat the sequences with a solo stop and pedals.

7. Practise the following cadences in all major keys:



8. Practise the following cadences in the minor keys of F, C, G, D, A, E, B and F sharp:

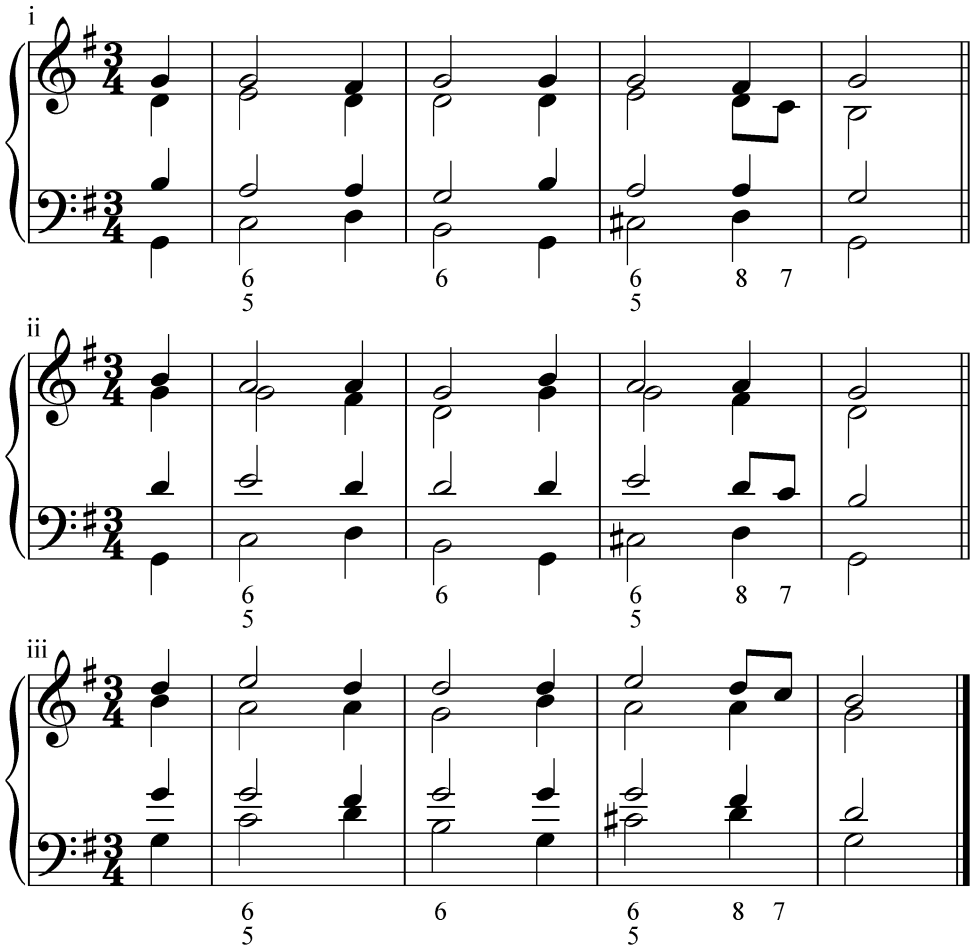


9.* Repeat ex.7 and 8 with a solo stop and pedals.

Georg Neumark's *Wer nur den lieben Gott lässt walten* (1657) employs the 7-chord in both root position and 1st inversion. The complete setting is given on p.9. The 6-5-chord is a feature of all the main cadences and is emphasised by the leaps in the bass. The tune and harmonisation, both composed by Neumark, are in perfect unity. Could he have written the melody without imagining the harmonisation at the same time?

EXERCISES:

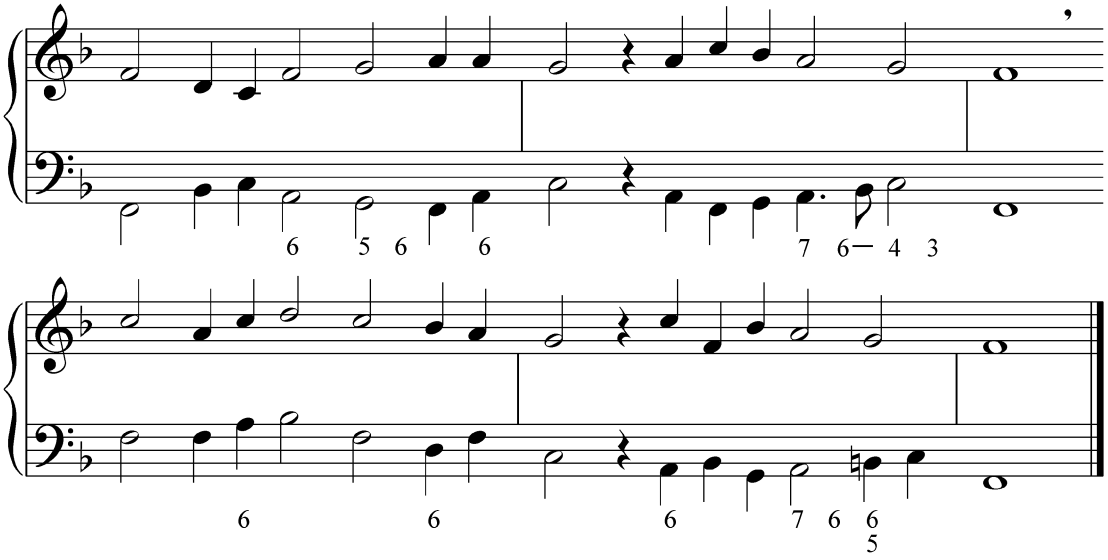
10. Practise the following phrases in all major keys:



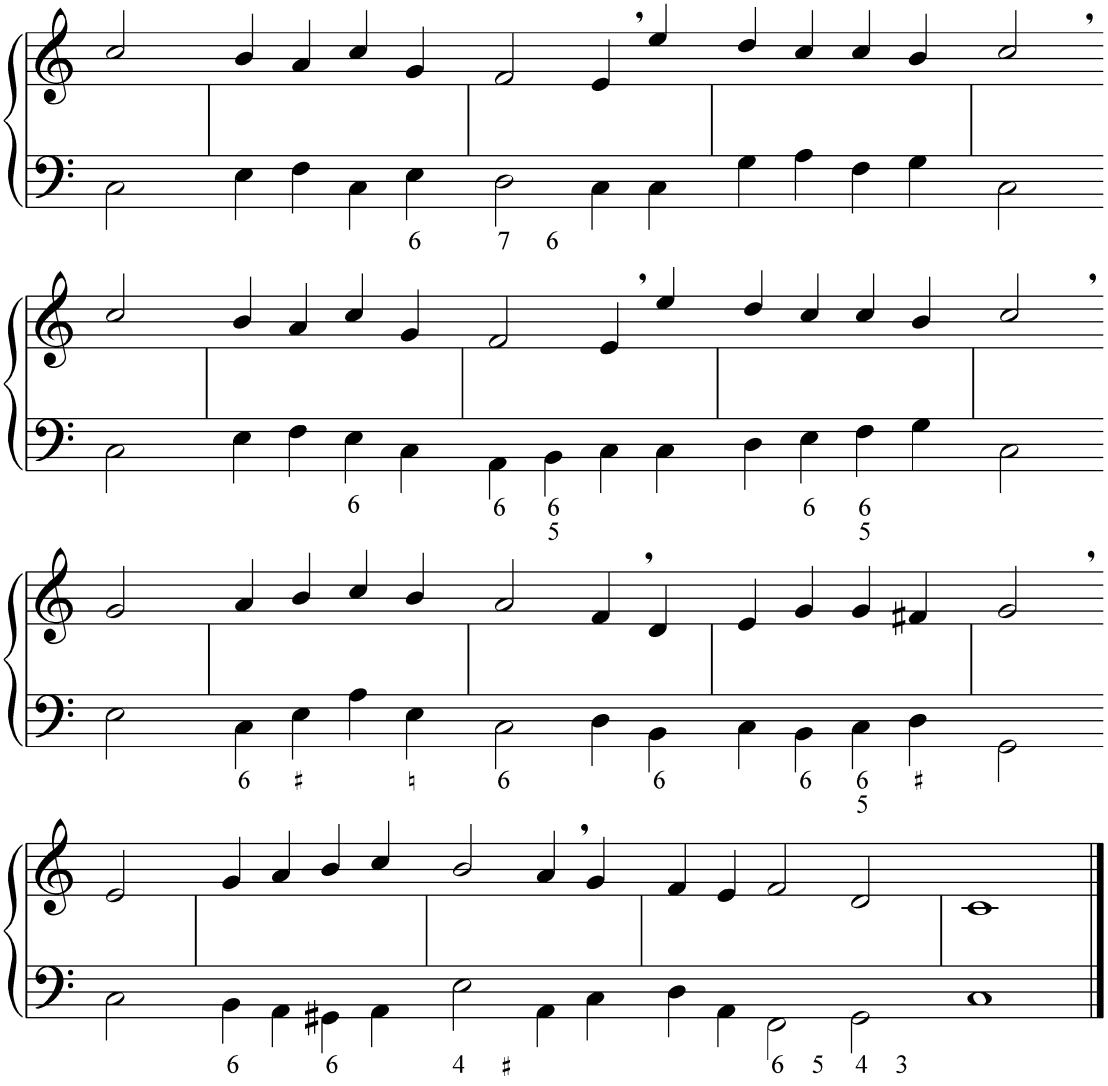
11.* Repeat ex.10 with a solo stop and pedals.

12. Play the following chorales in four parts. When in doubt about the part writing, it may help to write in some of the alto and tenor notes. But do not make a habit of this in practising the exercises in this tutor.

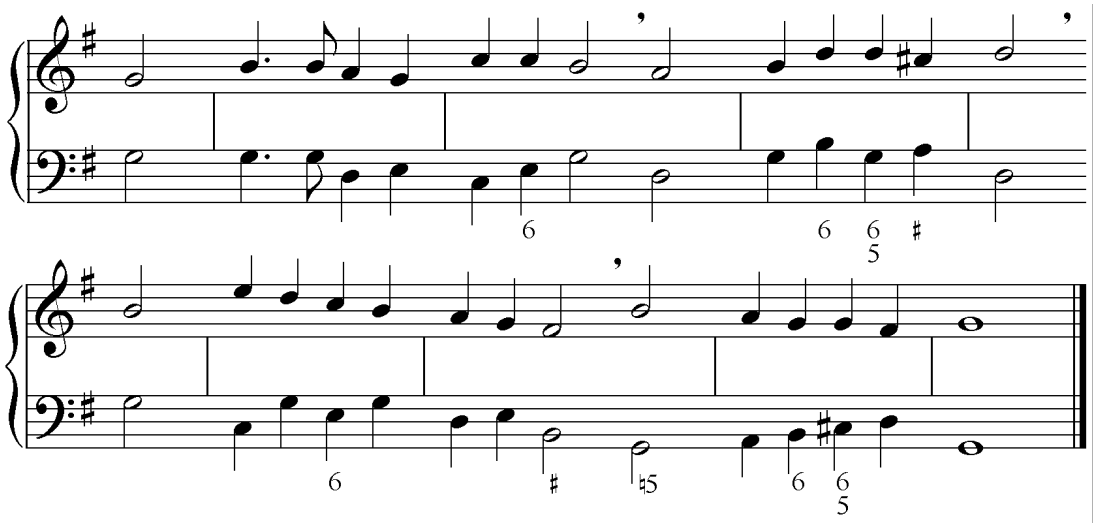
(a) *Nun danket all und bringet Ehr*



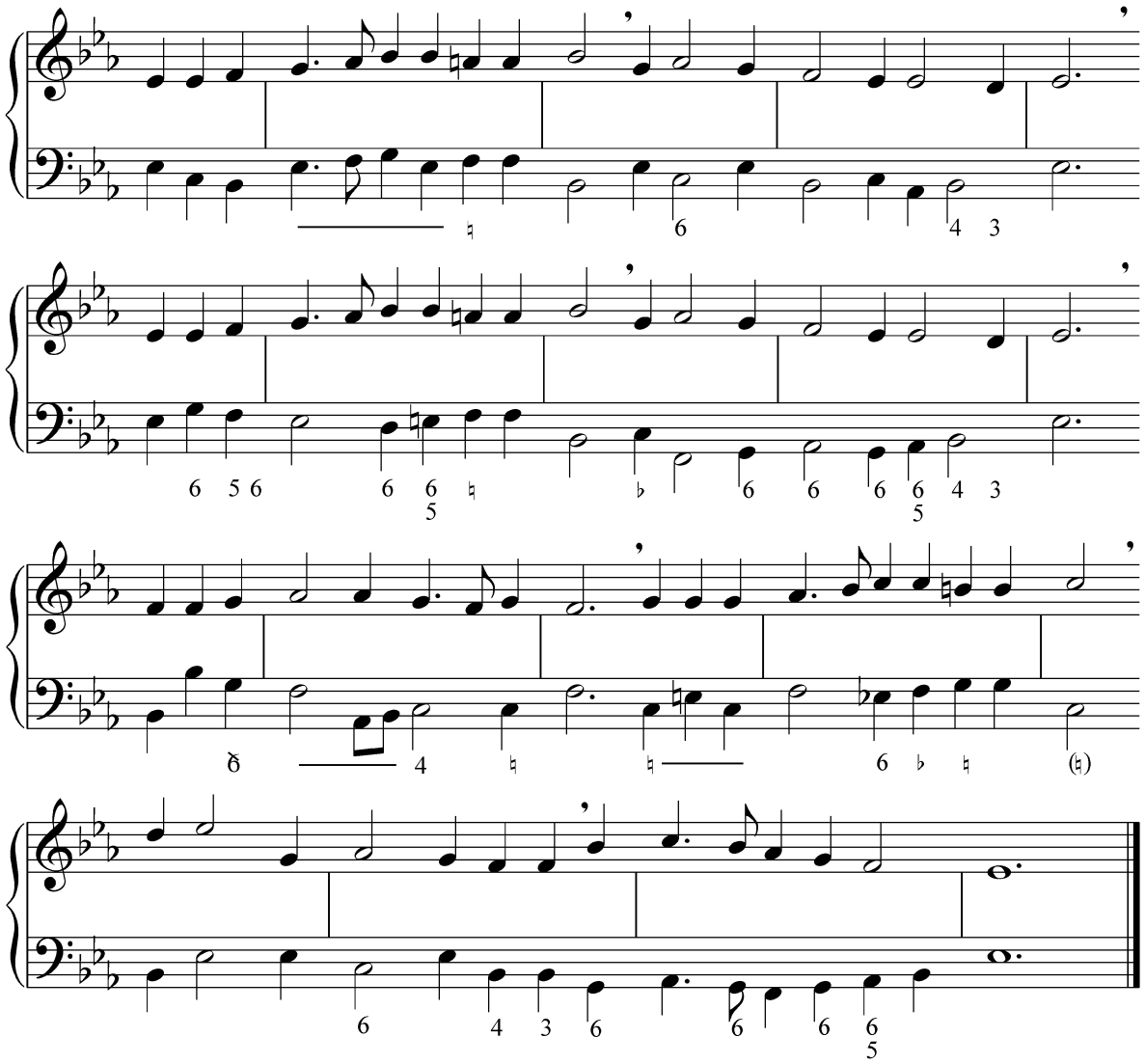
(b) *Aus meines Herzens Grunde*
N.B.: beware of parallel 5ths in the following settings - see p.34.



(c) *Winchester old*

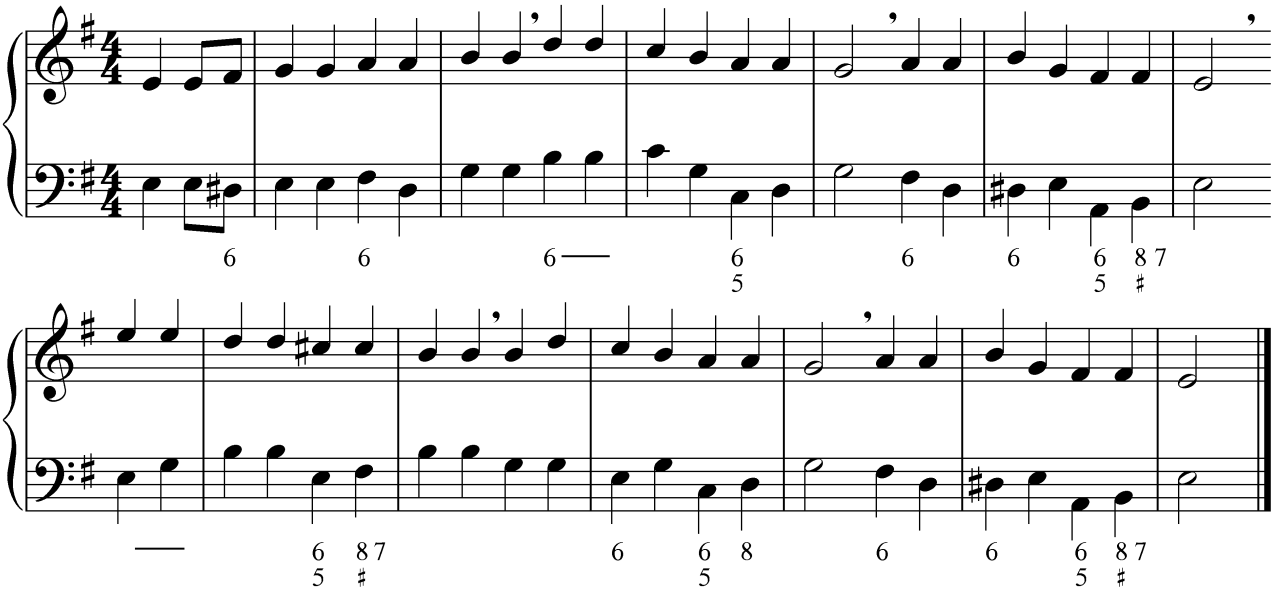


(d) *Ermuntre dich, mein schwacher Geist* [+]



[+] A horizontal dash indicates that the previous chord remains valid, although the distribution of the parts may change. The player is free to change the position of the chord in question, and indeed sometimes obliged to do so to avoid parallel 5ths or 8ves - see the first dash in *Ermuntre dich* and compare Part II p.19-20. In *The Lost Chord* such dashes are only applied where a misunderstanding could arise. In the second line of *Ermuntre dich* there is no dash under the quaver in the melody; it is clear from the bass that the quaver is not to be harmonised note-against-note.

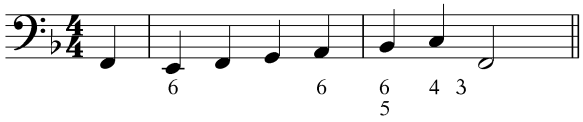
(e) *Ach, was soll ich Sünder machen* [+]



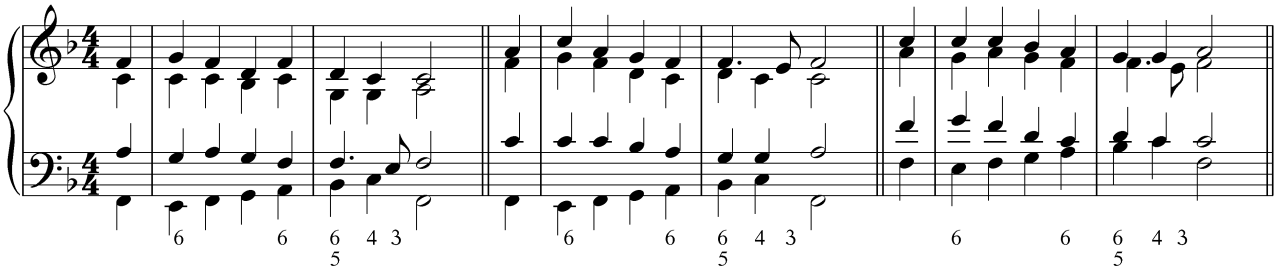
13.* Repeat the chorale settings with a solo stop and pedals.

14. Practise the following transpositions:
- *Nun danket all und bringet Ehr* in G and A major
- *Aus meines Herzens Grunde* in B flat and D major
- *Winchester old* in F and E flat major
- *Ermuntre dich, mein schwacher Geist* in F and G major
- *Ach, was soll ich Sünder machen* in D minor.

When we play from a figured bass, we may usually determine the distribution of the upper parts ourselves. In general, we should aim for contrary motion (though we cannot do without similar motion!) between the three upper voices and the bass. The more we vary the position of the upper parts, the more we will discover the potential of a given bass. The following bass:



can be harmonised in the following positions:

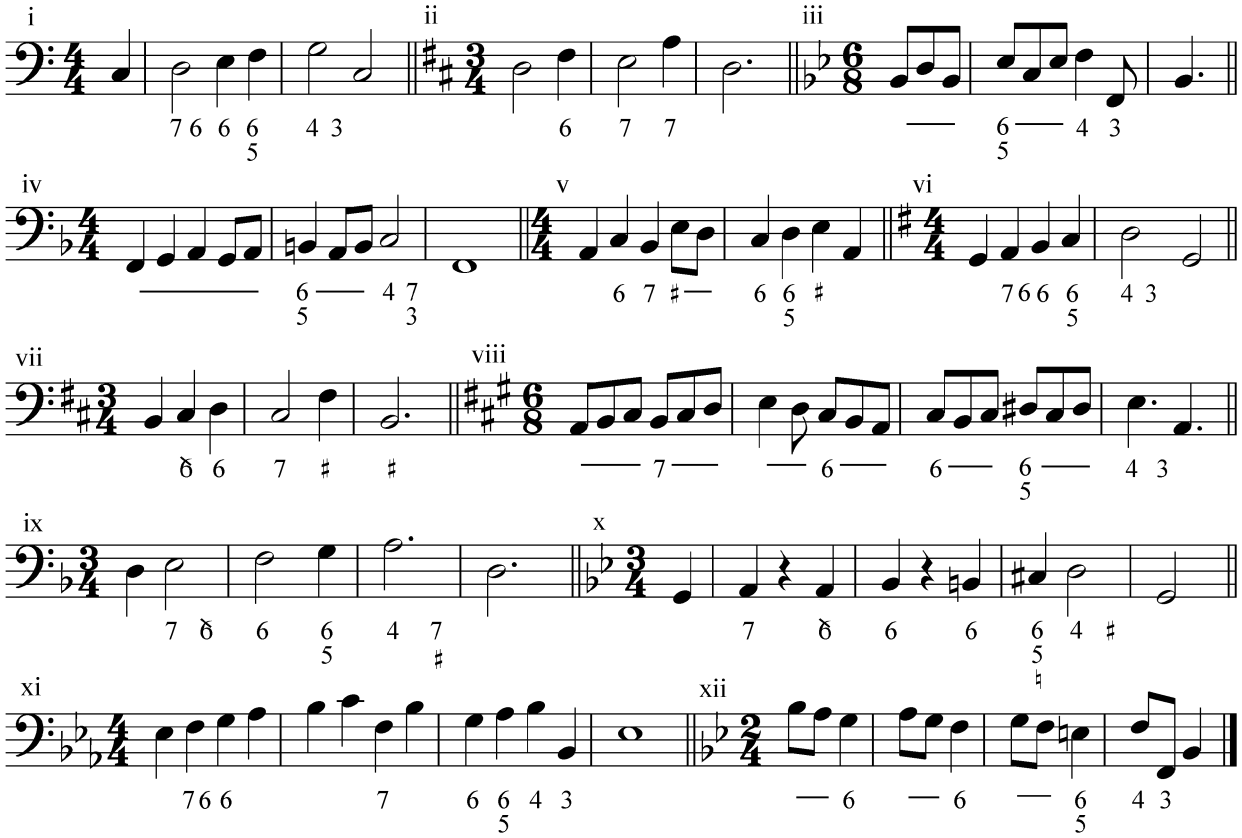


and in combinations of these positions.

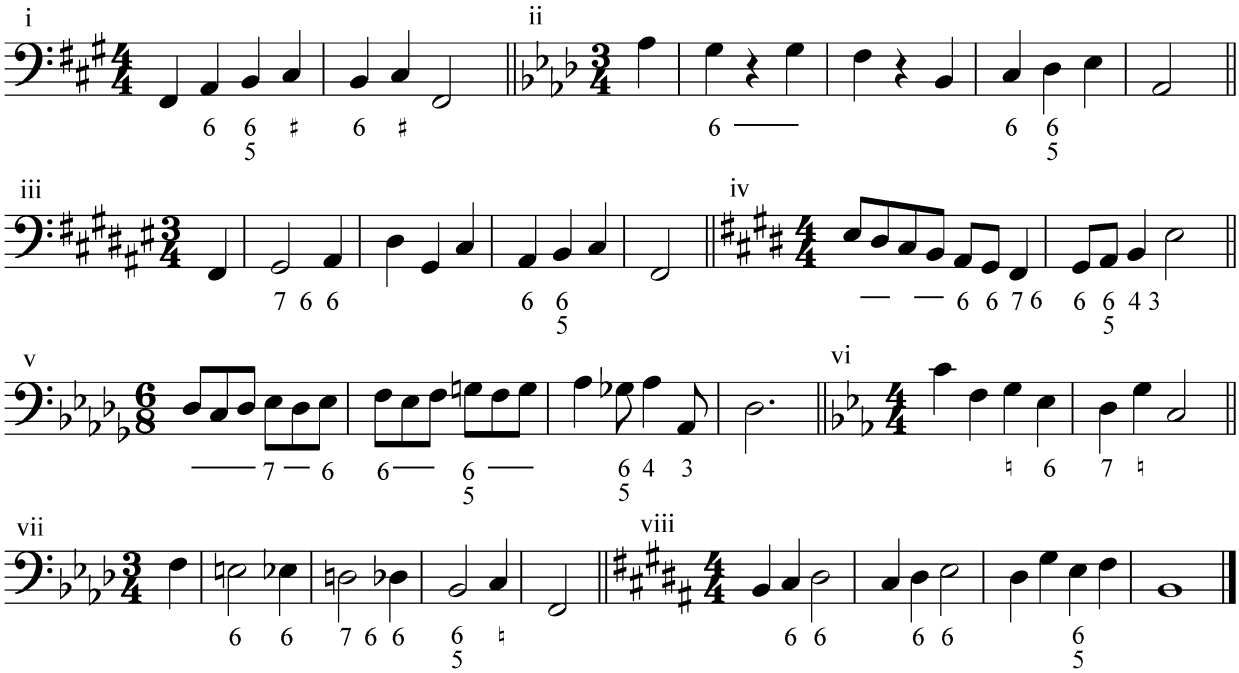
[+] A figured bass indicates (vertical) chord structure. In some cases, the figures also give the (horizontal) part writing - whether intentionally or by coincidence. In general, however, we may not assume that this is the case. In *Ach, was soll ich Sünder machen* the 5th moves - in the same part - no less than three times to the sharpened 3rd, but the 6th does not move in one and the same voice to the 8ve, despite the fact that the figures may suggest that it should. On the other hand, the 8ve does proceed to the 7th: the fact that these figures are next to one another may make it easier for the player, but strictly speaking the 8ve does not need to be figured. Even in a 4-3 suspension the 3rd is not always indicated precisely alongside the 4th.

EXERCISES:

15. Play the following figured basses in four parts in a variety of positions:



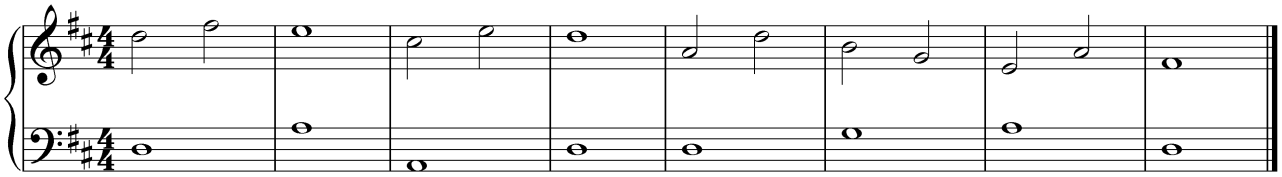
[16.][+] Play the following figured basses in four parts in a variety of positions:



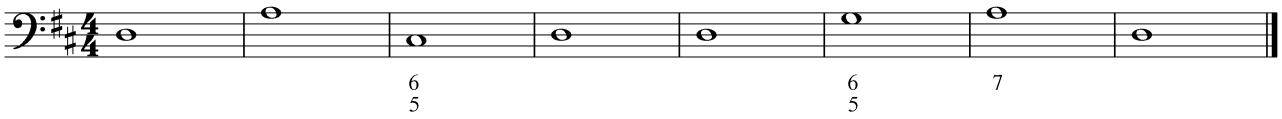
[+] Exercises in brackets are in more remote keys. They may be skipped, or reserved for a 'second round'. Although some keys rarely occur in hymn tunes, figured basses and suchlike, they are of importance to develop our keyboard skills.

Inventions

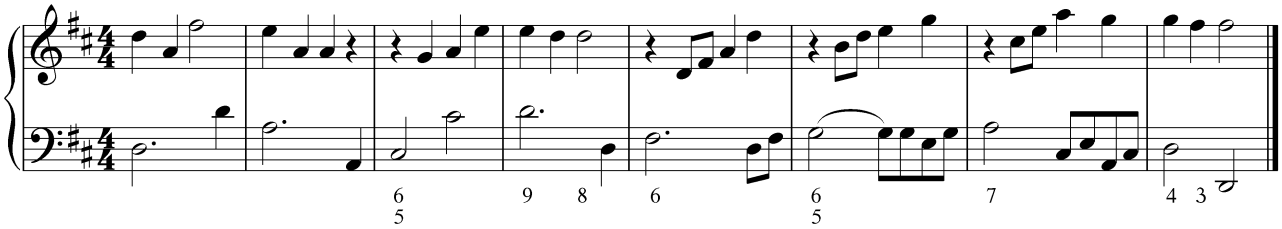
Our two-part inventions teach us to improvise melodies while being aware of the harmonic implications of a given bass. We combine vertical and horizontal considerations, and as we progress we add new chords to our vocabulary. Let us once more take the example from ch.3 as our point of departure:



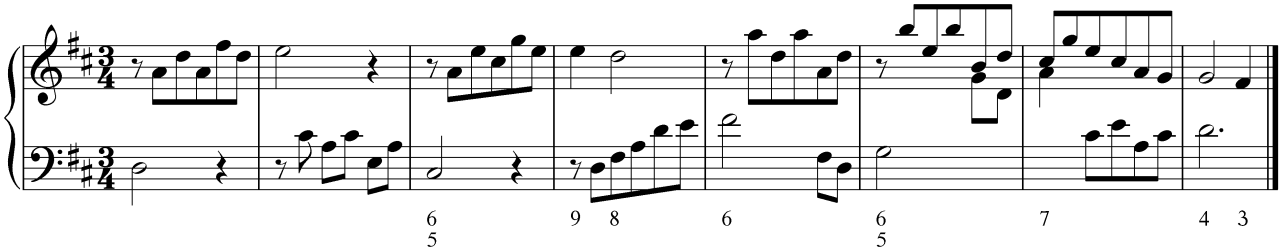
Without essentially changing the harmonic progression, we can introduce our new chords:



and give full scope to our imagination:



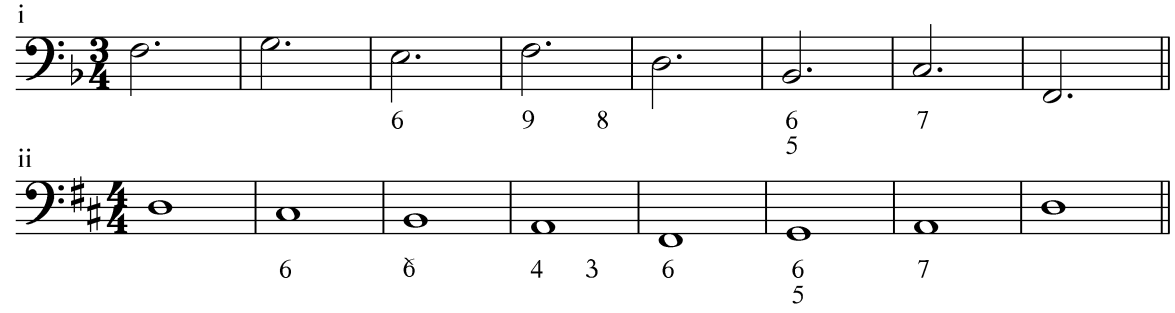
We can go a step further, perhaps in triple time:

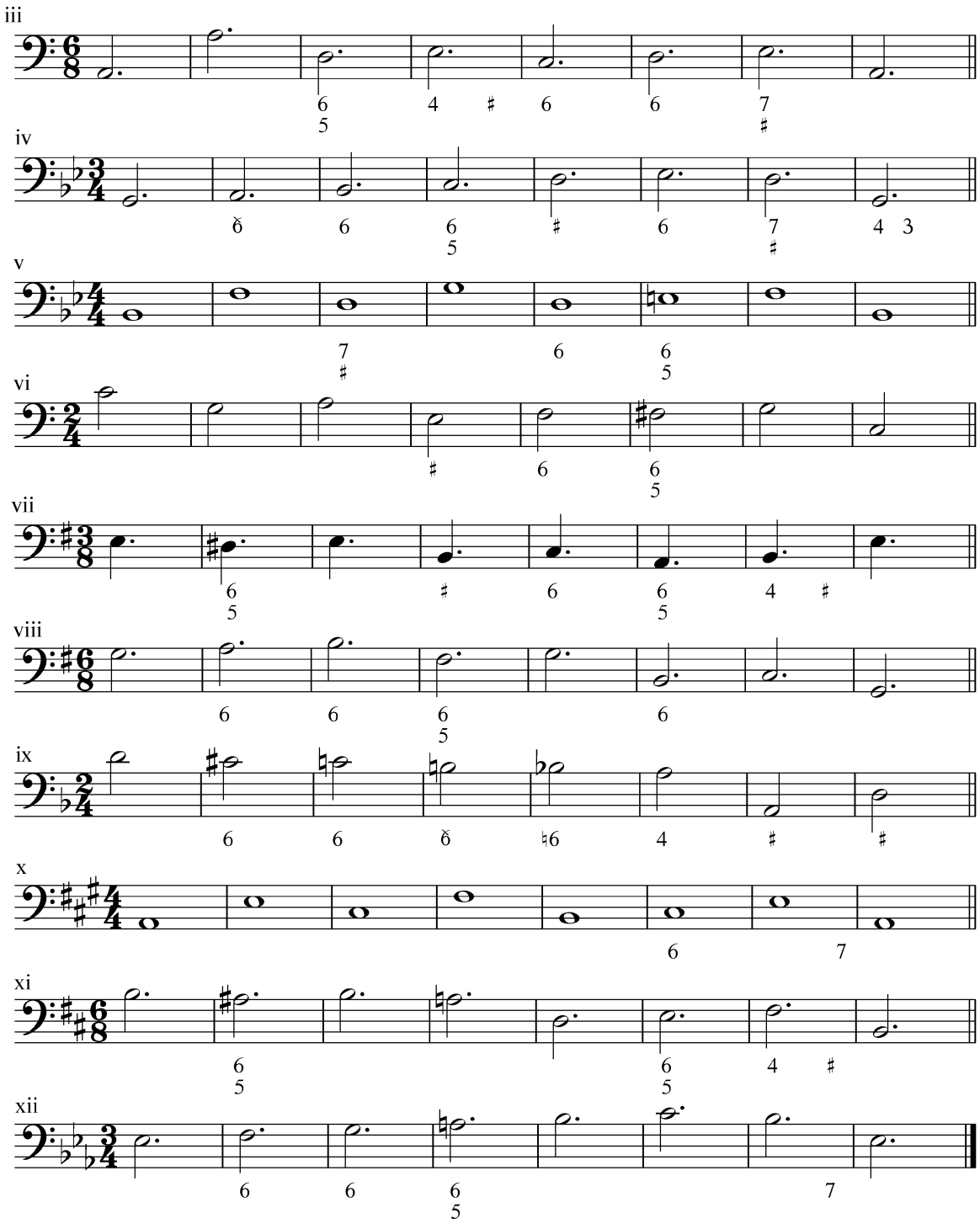


These two inventions contain only one quaver that goes beyond the indicated chords and suspensions! The first priority is healthy harmonic progressions, to which our figuration must comply.

EXERCISES:

17. Improvise two-part inventions based on the following schemes:





18. Play the following 8-bar schemes first in four parts, note against note, in a key and time of your own choice. Then improvise simple two-part inventions. In Part II p.91 you will find more schemes to practise with.

Major keys:

I II I^6 V I^6 IV^6 V I

I VI IV V I^6 II V I

Minor keys:

I IV I V I^6 IV^6 V I

I V^6 I VII^6 I^6 II^6 V I

5

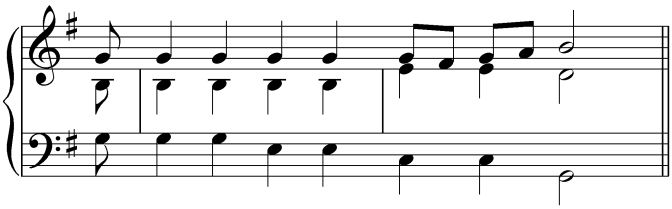
FIGURATION (i)

Harmonisation and figuration
Auxiliary notes and passing notes
Two-part inventions

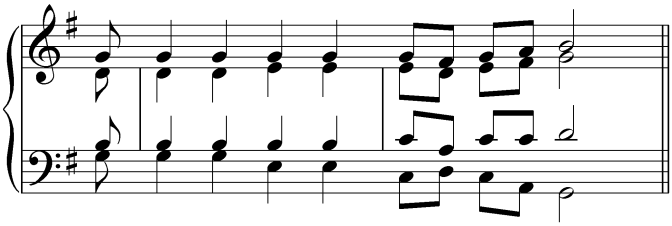
The Latin verb *figurare* means to form or shape. The *Grove Dictionary of Music and Musicians* includes among its definitions of figuration “small patterns of notes occupying a beat or two of time”, while the Shorter Oxford English Dictionary gives “a short succession of notes which produce a single impression”. Language may be enriched by figures of speech (Oxford: “a form of rhetorical expression which gives beauty, variety, force, etc., to a composition...”). In architecture, ornamentation often lends a structure its specific character. And so from language and architecture to harmonisation. Our harmonic progressions - the foundations of our edifice - may be safe and sound, but the appearance of our composition may well improve with some ornamentation, or ‘figuration’. Our next task, therefore, is to learn how to ornament our chords. In harmonising existing melodies, we must learn to distinguish between structural notes, requiring harmonic foundation, and figuration that has a purely decorative function and may not require harmonic support of its own.

Auxiliary notes

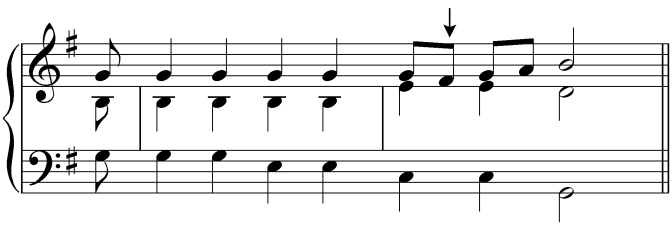
From the beginning of this tutor we have actually employed all sorts of figuration without paying specific attention to it. In a number of exercises and settings, horizontal dashes under such figuration indicate that a change of chord is not required. In 1557, Jacobus Clemens non Papa wrote a setting of the Flemish song *Wie was diegene die die loverkens brak* which begins as follows:



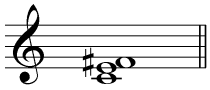
Theoretically, the phrase could also be harmonised in the following manner:



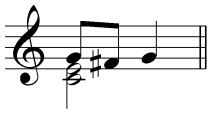
Musically speaking, however, the harmonised quavers slow down the pulse of this light-footed tune. Clemens simply repeats the triad of C major and thus provides sufficient support for the quaver figuration in the melody. When we listen to his setting a remarkable phenomenon occurs:



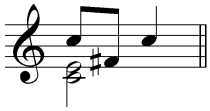
Our ear accepts the brief dissonance between the quaver F sharp and the 3rd C-E which supports it, even though the resulting sound hardly seems harmonious:



This is not the first occasion on which we notice that the degree of dissonance is not simply determined by the intervals in question, but also by their context. In the above harmonisation, the **auxiliary note** F sharp nestles in stepwise movement between the 5th of the triad (a chord note) and its repetition:



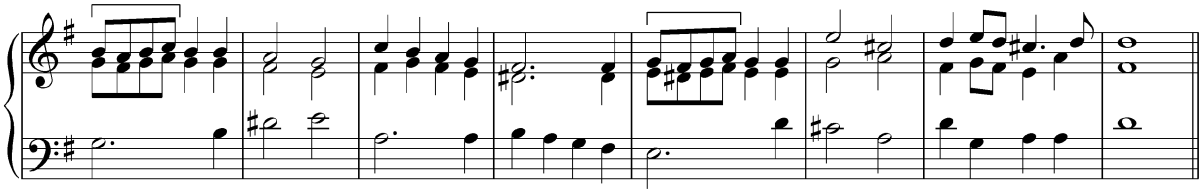
If we fail to create stepwise movement, chord notes surrounding the dissonance cannot stop it sounding much stronger, demanding, as it were, much more attention than a simple ornament deserves:



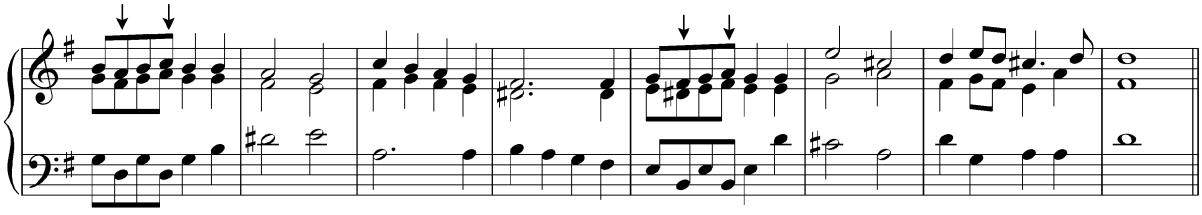
From the above we may draw the following conclusions:

- An auxiliary note is a non-chordal note that decorates a chord note.
- An auxiliary note moves by step (up or down a tone or semitone) between a chord note and its repetition.
- An auxiliary note occurs on a weaker moment in the bar than the chord note it decorates.

In the *Chorus of Virgins* from Handel's *Judas Maccabeus* (announcing the tune of the well-known *See, the conqu'ring hero comes!*), figuration in the two soprano parts features rising and falling auxiliary notes in parallel 3rds (ornamentation of the triad of G major and that of E minor respectively). The figuration lends Handel's tune its specific character:



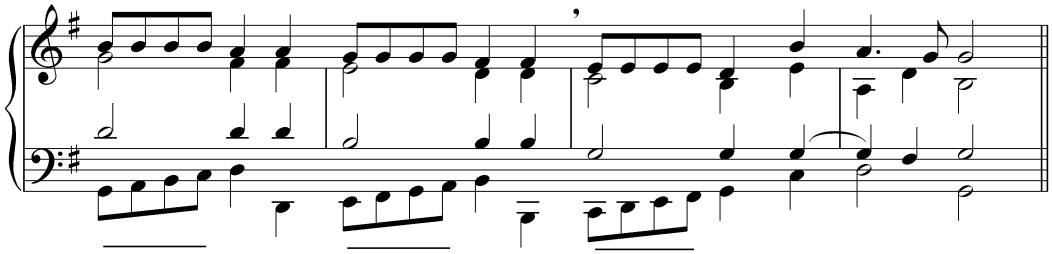
A change of chord on the even quavers would slow the pulse and change the character of the tune considerably:



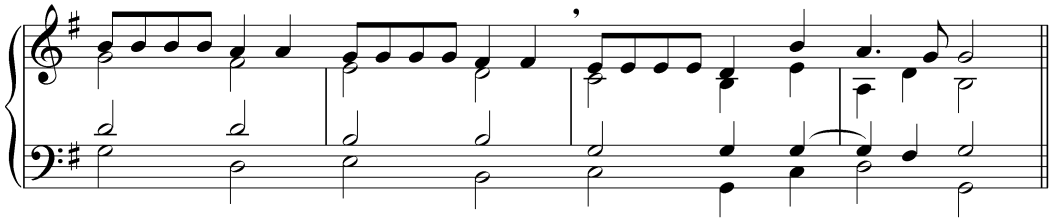
Some melodies have a rather uniform rhythmic movement, which can be a characteristic in itself, while others feature more diverse rhythms. Faster, figurative elements set their own mark on the character of a melody, as we will see again in the following chapter.

Passing notes

A setting of *Wunderbarer König* attributed to Joachim Neander and published in 1680 begins:

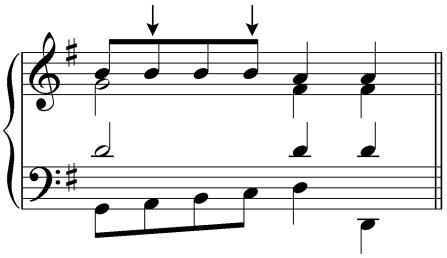


This simple melody, with many note repetitions, requires a simple harmonisation (and a brisk tempo!). The harmony changes twice per bar, creating a pulse in minims:

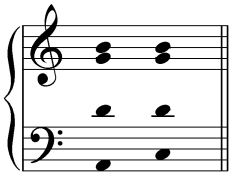


This scheme really over-simplifies the setting, and the agile soprano is no longer matched by the other parts. Thus the composer opted for rising 5ths instead of falling 4ths in the bass (in sequence, like the melody) and filled them up with scalic figuration in quavers.

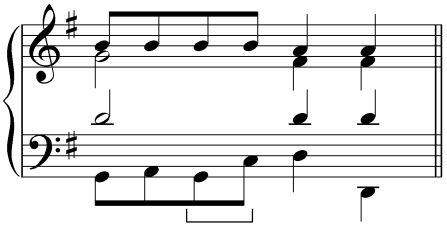
Here again, our ear proves to be tolerant towards certain dissonances. In the first bar of the 1680 setting:



the following dissonances occur at the points indicated:



The dissonant notes in the bass do not turn back like auxiliary notes, but pass on to the following chord note. Like the auxiliary note, the non-chordal **passing note** is embedded in stepwise movement between chord notes, thus softening the dissonance. If the quaver C were to be approached by a leap, our ear would be less tolerant:

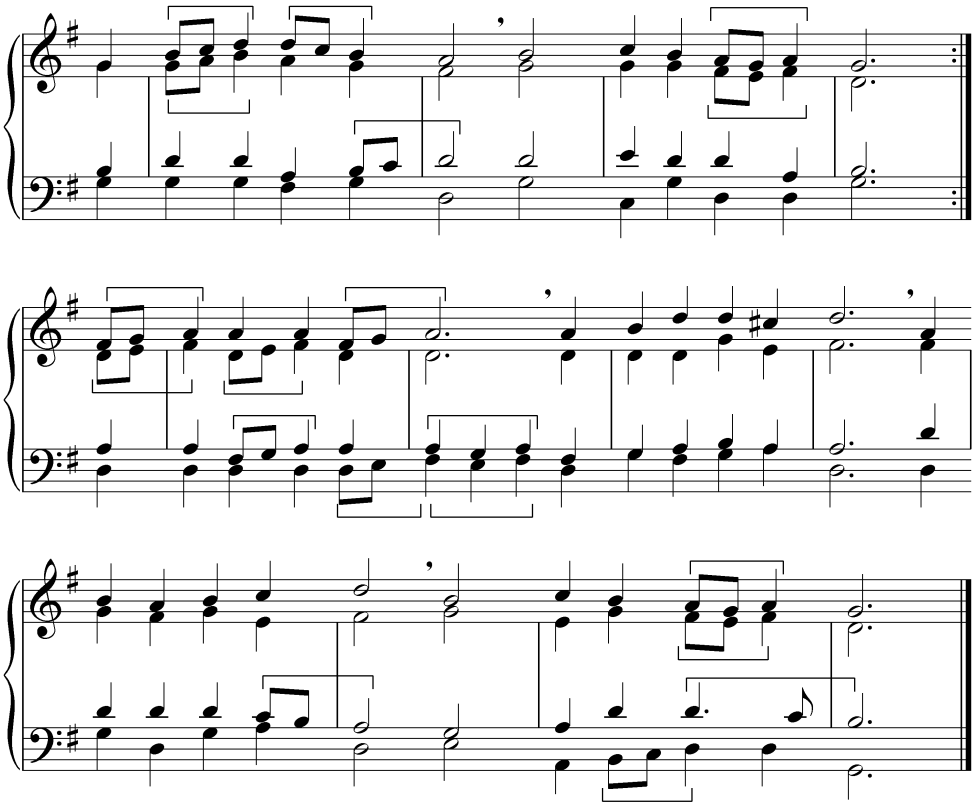


The non-chordal quaver A now turns back to G, and has therefore become an auxiliary note. But the quaver C does not belong to the triad of G major, and is no longer part of a stepwise movement. Because the context has changed, the non-chordal C has become a stronger, more striking dissonance.

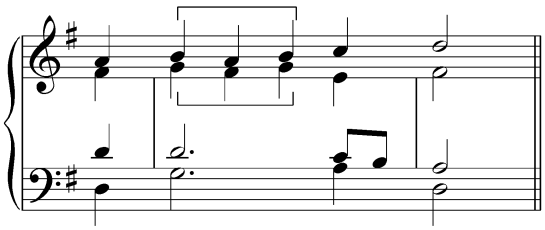
From the above we may draw the following conclusions:

- A passing note is a non-chordal note between two different chord notes.
- A passing note (or group of passing notes) moves stepwise in semitones or tones between two different chord notes.
- Passing notes occur on a weaker moment in the bar than the chord notes they ornament.

The Dutch tune *Gelukkig is het land* (1626) features many auxiliary and passing notes. They are matched in the other voices in the 20th-century harmonisation by the Dutch organist Adriaan Engels:



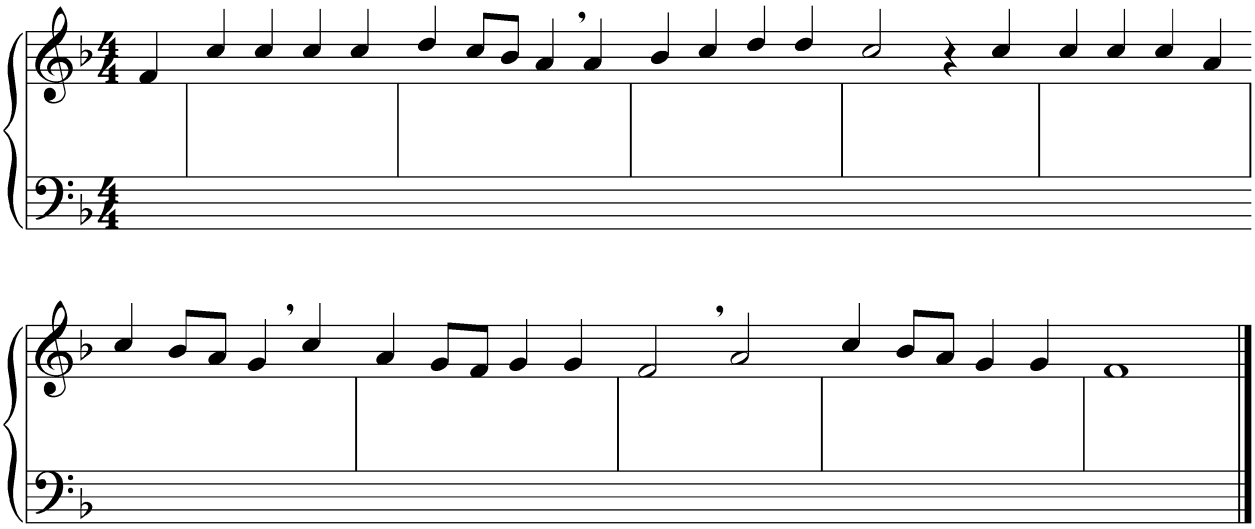
N.B.: passing notes, unlike auxiliary notes, may occur as a stepwise movement between two <u>different</u> chords. See the first and third systems in the above example.
In the second system there are double auxiliary notes in the tenor and bass, now in crotchets. At the beginning of the final line the composer resists the temptation to treat the melody similarly:



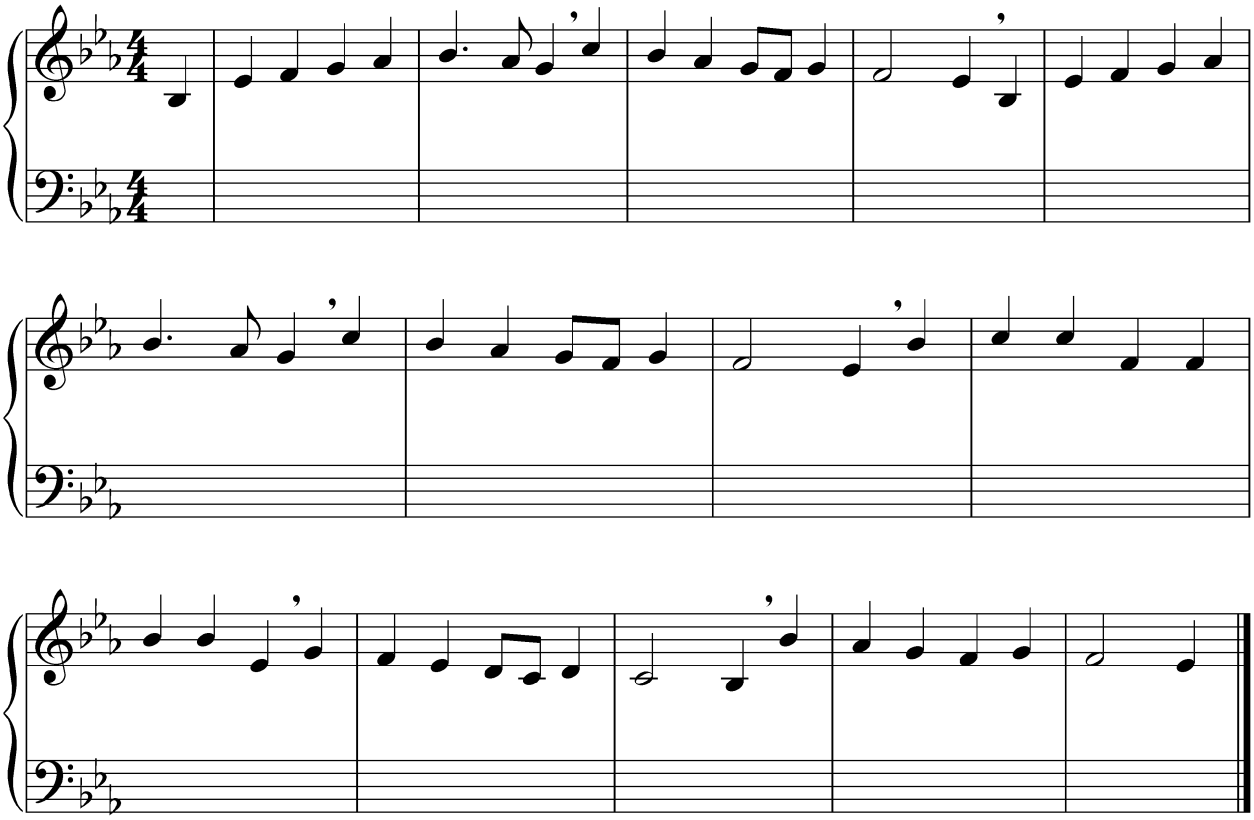
EXERCISES:

1. Write a bass to the following chorales, taking any auxiliary or passing notes in the melody into account. Play the settings in four parts.

(a) *Lobt Gott, ihr Christen alle gleich*

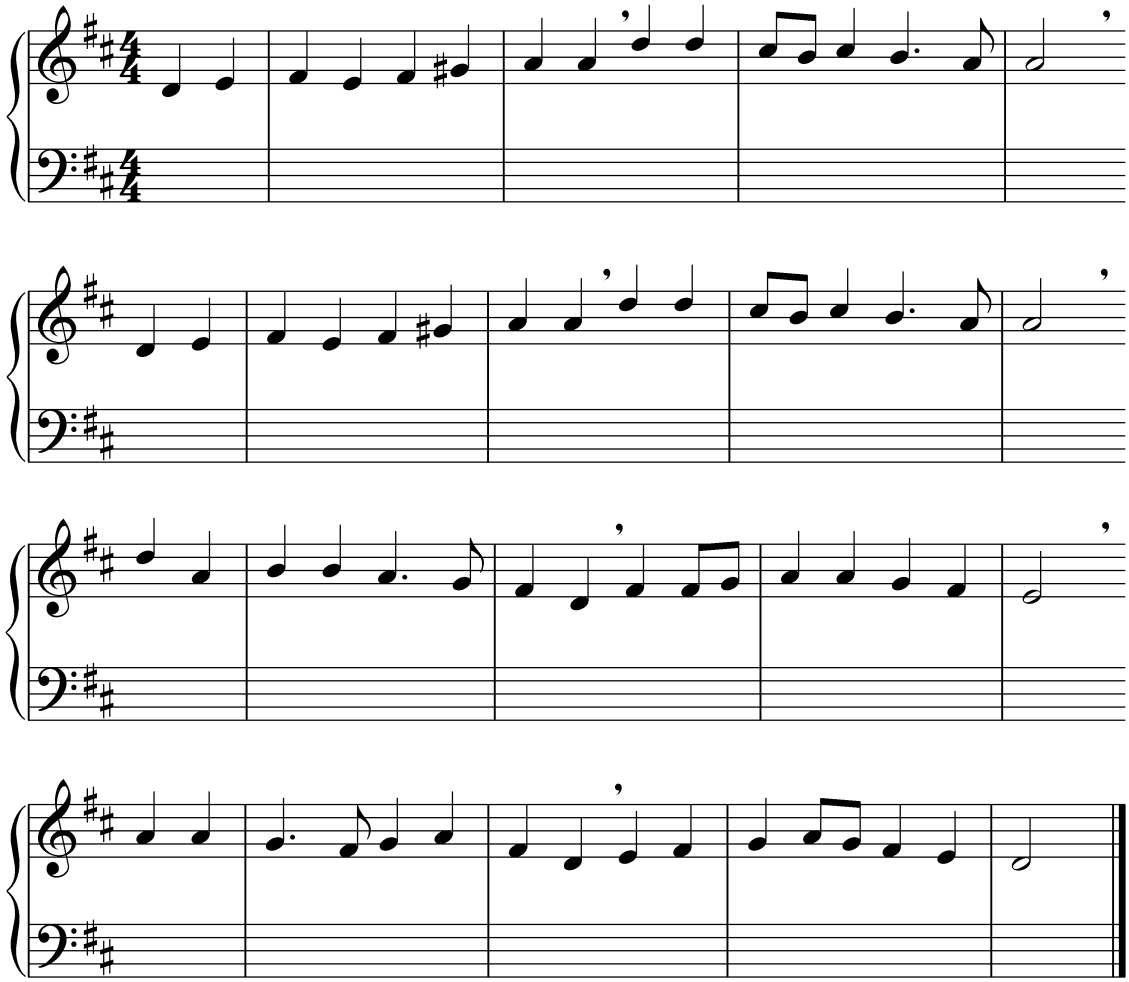


(b) *Was Gott tut, das ist wohlgetan*[+]

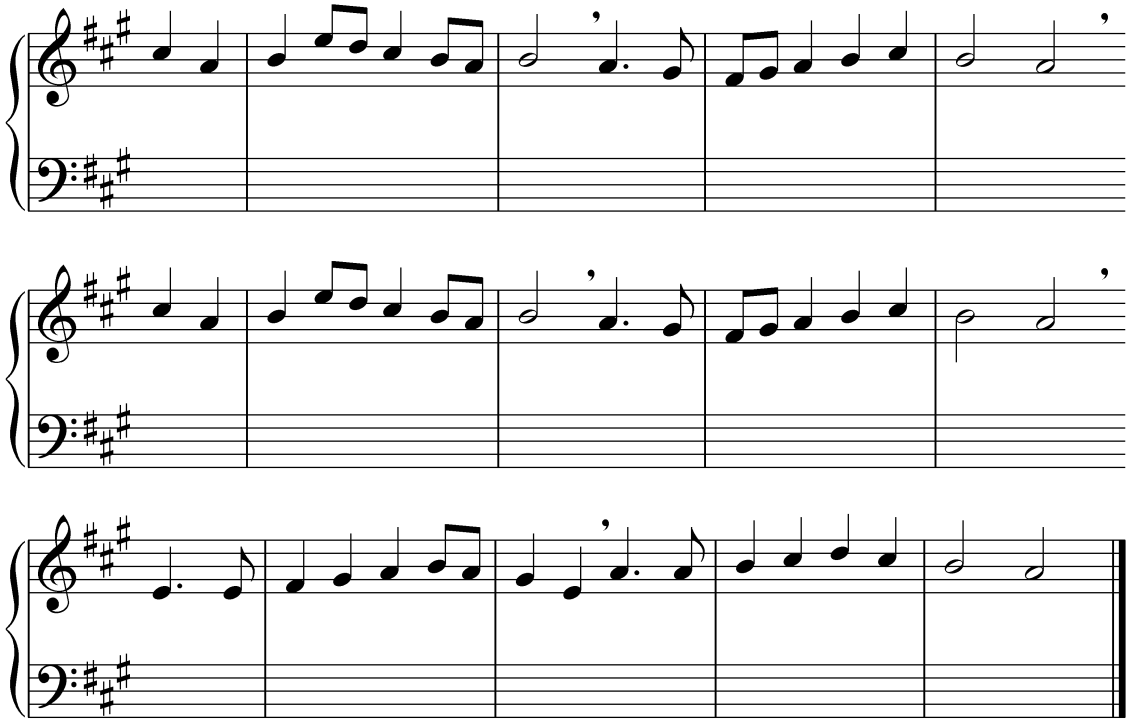


[+] Repeated lines in Lutheran chorales were rarely supplied with alternative harmonisations. In *The Lost Chord*, however, repeat signs in the exercises are usually avoided, giving the reader the opportunity to work out two harmonisations of the same line.

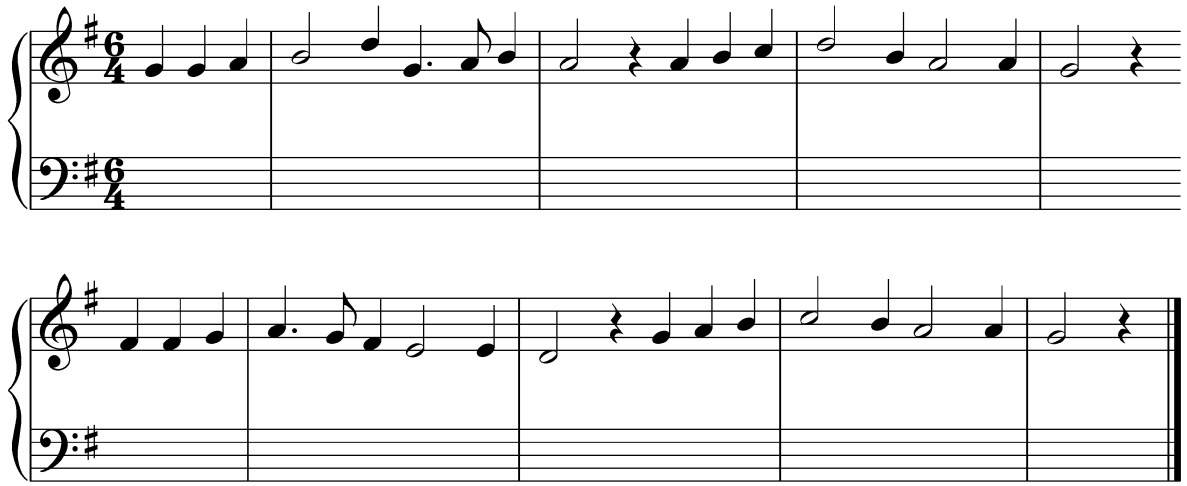
(c) *O Durchbrecher aller Bande*



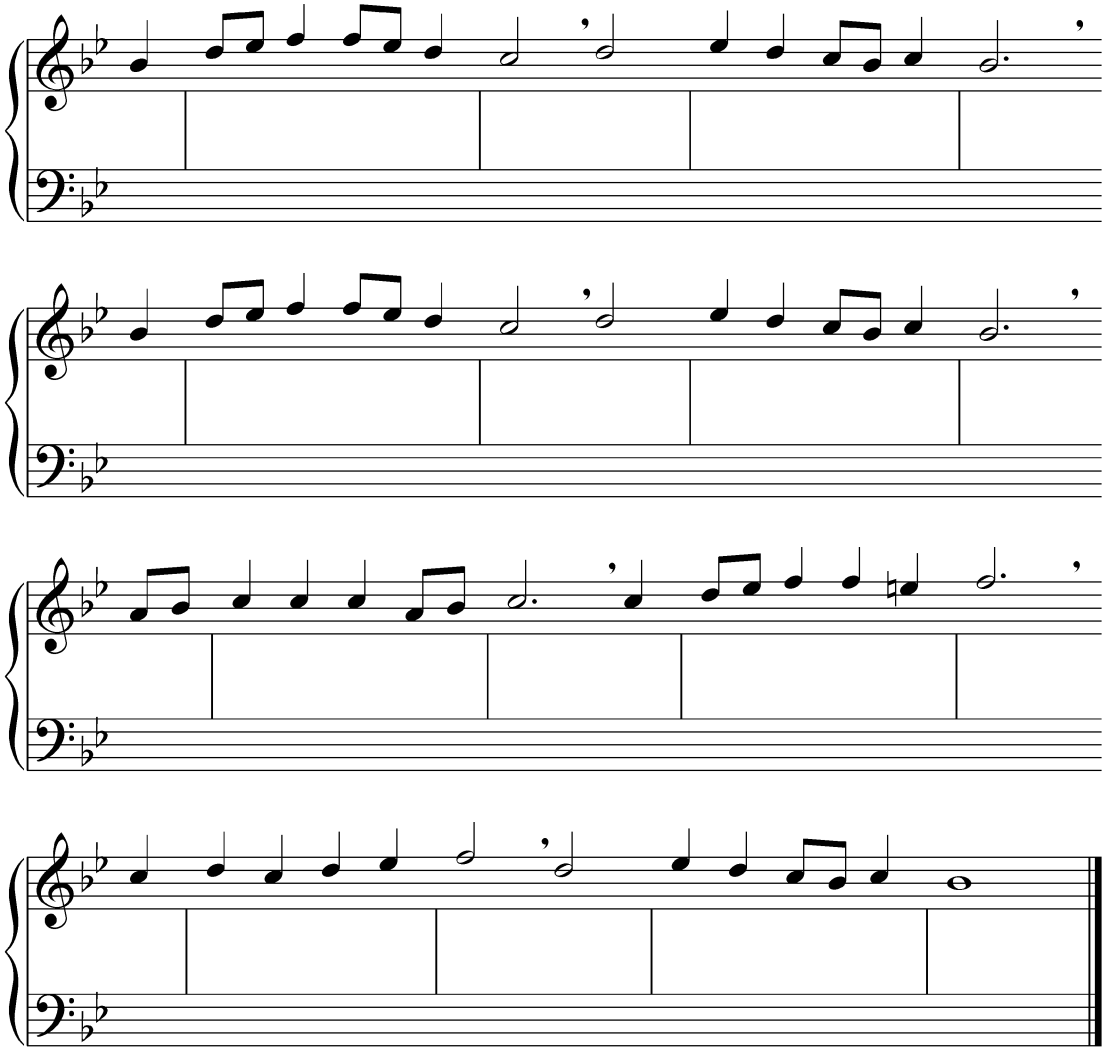
(d) *Liebster Jesu, wir sind hier*



(e) *O Jesu Christe, wahres Licht*



(f) *Gelukkig is het land*



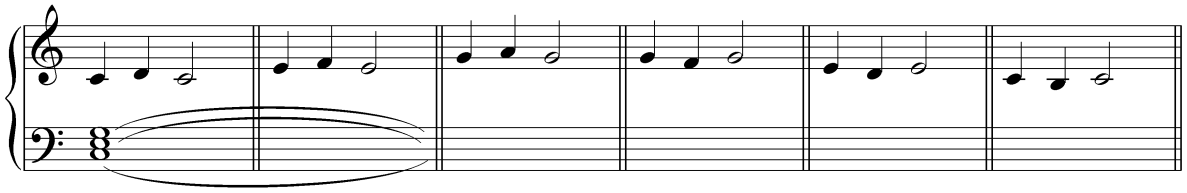
2. Practise the following transpositions: *Lobt Gott* in E flat and G, *Was Gott tut* in D and F, *O Durchbrecher* in C and E, *Liebster Jesu* in G and B flat, *O Jesu Christe* in A and F, *Gelukkig is het land* in A and G.

3.* Repeat the settings with a solo stop and pedals.

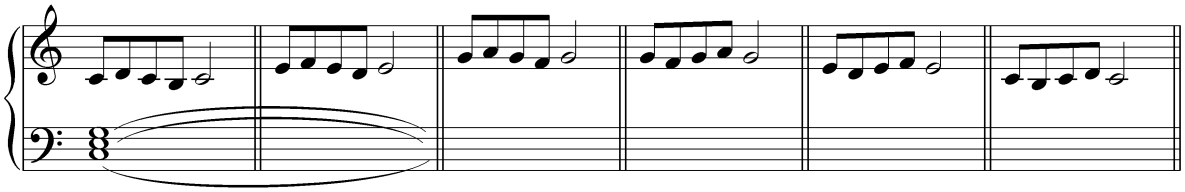
Inventions

Up until now, in our improvised two-part inventions we have employed only the chord notes dictated by the bass. If we use auxiliary and passing notes to add figuration to the two parts, our melodic vocabulary becomes considerably larger. The correct and tasteful application of non-chordal notes, however, requires as much attention to the harmony as it does to the figuration itself. Figurations are horizontal, melodic turns of phrase; they may not simply go their own way regardless, but must be embedded in the harmonic progressions.

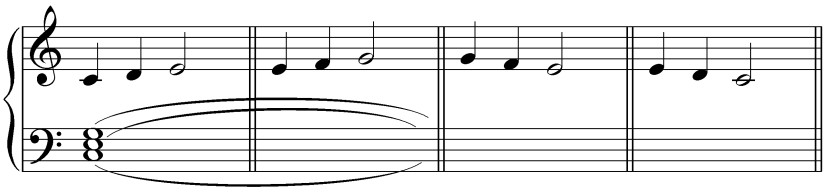
An auxiliary note is a non-chordal note that moves stepwise between one and the same chordal note. When we play the triad of C major, the following auxiliary notes are available:



and many combinations of the same, for example:

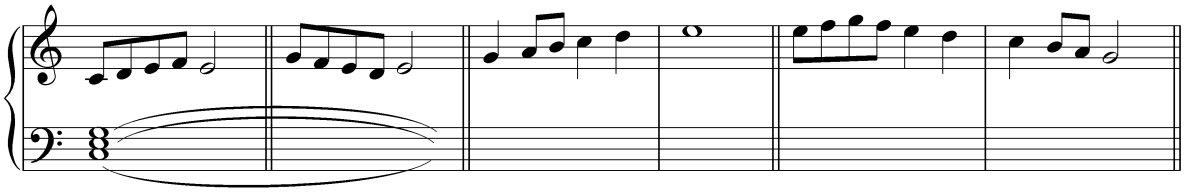


A passing note is a non-chordal note that moves stepwise from one chord note to the next. When we play the triad of C major, the following figurations are available:

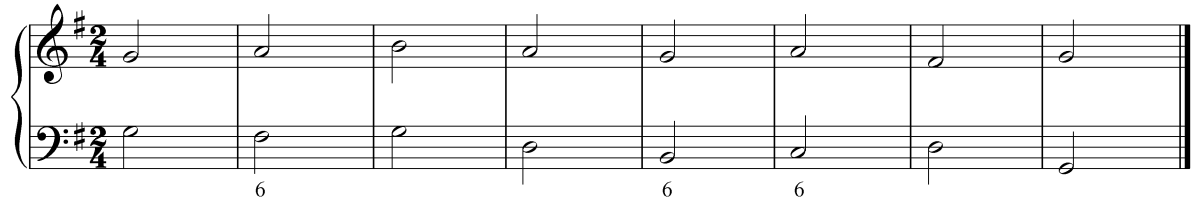


Larger gaps between chord notes require more successive passing notes, always in stepwise movement:

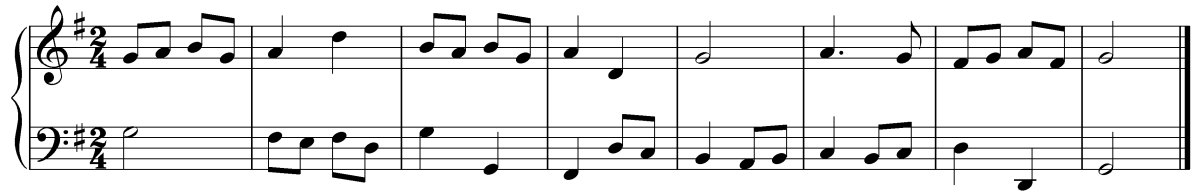
By combining auxiliary and passing notes, we can add countless figurations to our vocabulary:



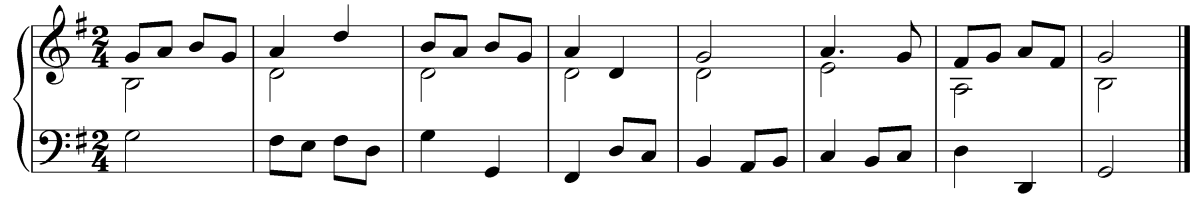
The following scheme:



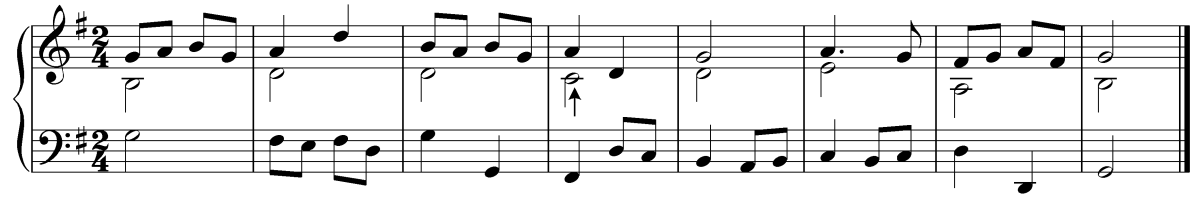
can produce the following invention:



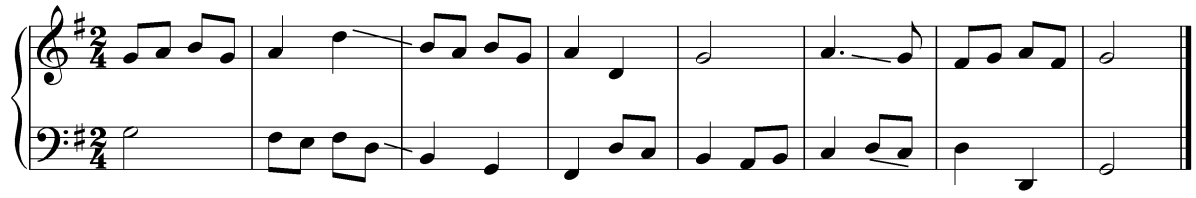
N.B.: though the reader may think that bar 4 of the invention deviates from the scheme, this is not the case! As discussed in Part II p.62, in our inventions we are free to alternate root positions with 6-chords without any specific indication to that effect. In two-part music, in which the triad cannot be complete, our ear must often 'imagine' an absent chord note. Nevertheless, the harmonic implications of the above two-part invention are clear:



In bar 4 of the figured two-part version, the root D is not heard until the 2nd beat. Unless the tempo is very slow, our ear 'understands' that a 6-chord is implied on the 1st beat, not in the least because the alternative is hardly likely:

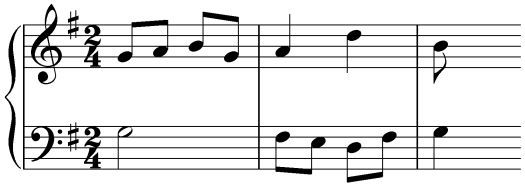


The fact that the basic scheme is free of parallel 5ths and 8ves does not go to say that the ornamented invention is also faultless in this respect. In the following version of the same scheme, incorrect parallel intervals occur at two points:



In the original scheme, in bars 2-3 the bass moves from F sharp to G. Because of the added figuration, bar 2 now ends with D in both parts, while the chosen 1st inversion at the beginning of bar 3 is thinned down to an unfortunate and meagre doubling of the 3rd of the triad. The basic progression from V (bar 2) to I (bar 3) is fine, but it is worked out such that parallel 8ves occur. They can be avoided by having the figuration in the bass in bar 2 end

where it began - on F sharp; the leading-note once more moves logically to G:

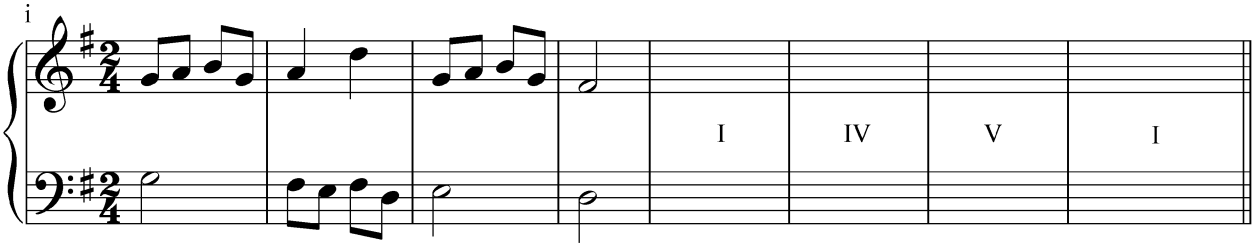


For safety's sake, it is always practical to have figurations end where they began, so that the original progression is not essentially altered - see bars 1, 5 and 7. If we depart from this principle, we must take extra care. The parallel 5ths in bar 6 can only be avoided by listening closely and paying extra attention to all similar movement: as we know, not all similar movement gets us into trouble!

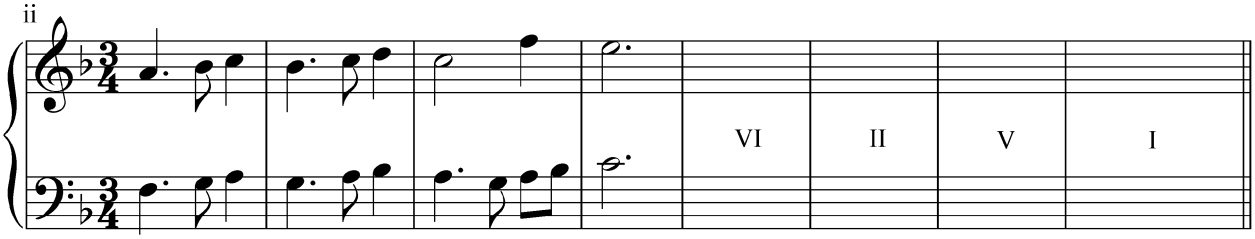
EXERCISES:

4. Complete the following inventions with figuration to match the opening bars. Make use of the 6-chord, 7-chord and 6-5-chord. Final cadences may be enhanced with a 4-3 suspension!

i



ii



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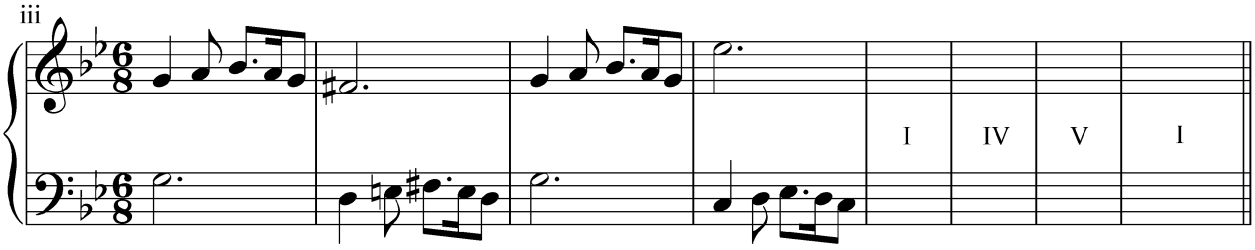

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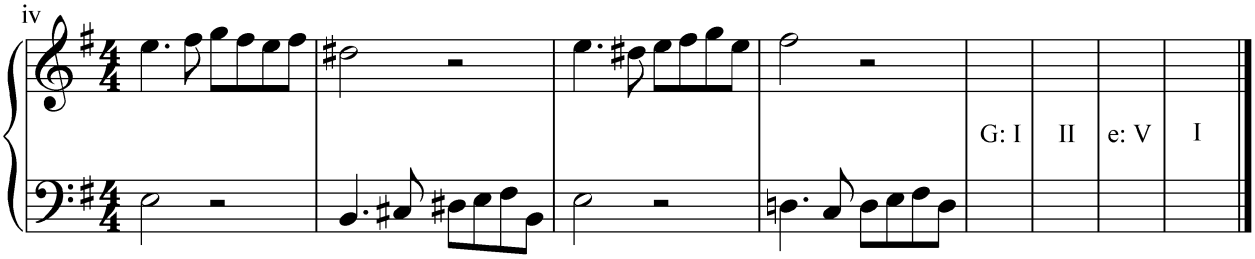
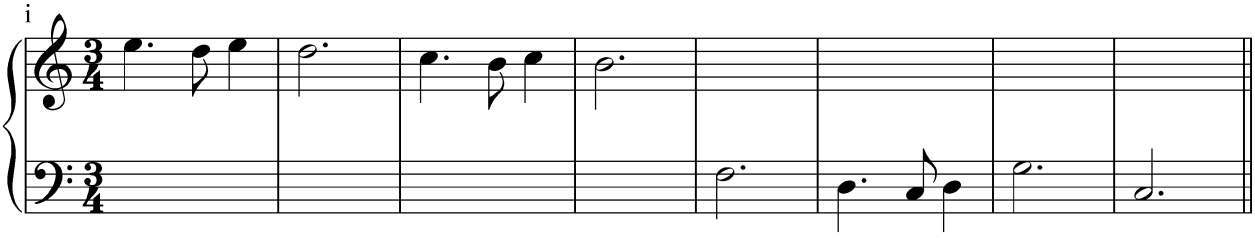


5. Complete the following inventions with matching figuration.

i



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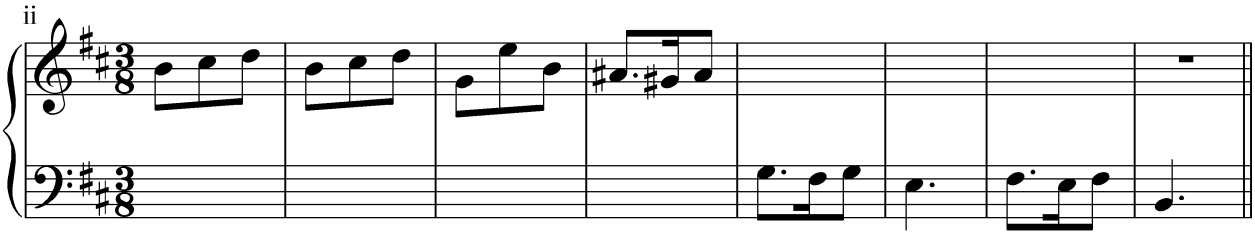

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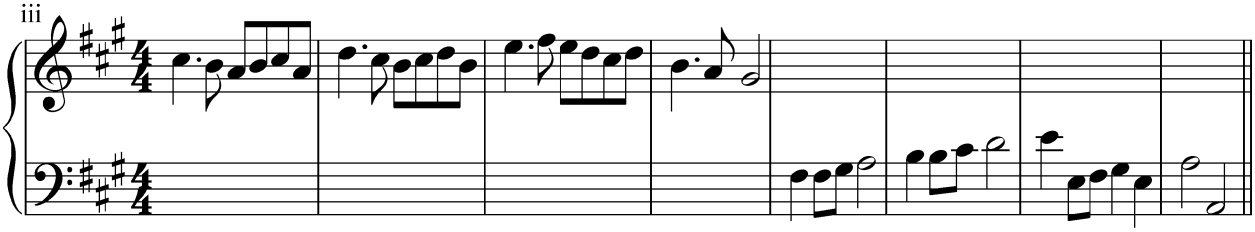

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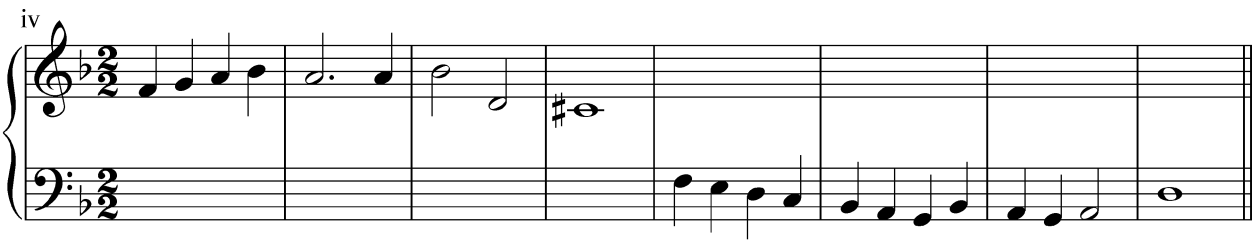

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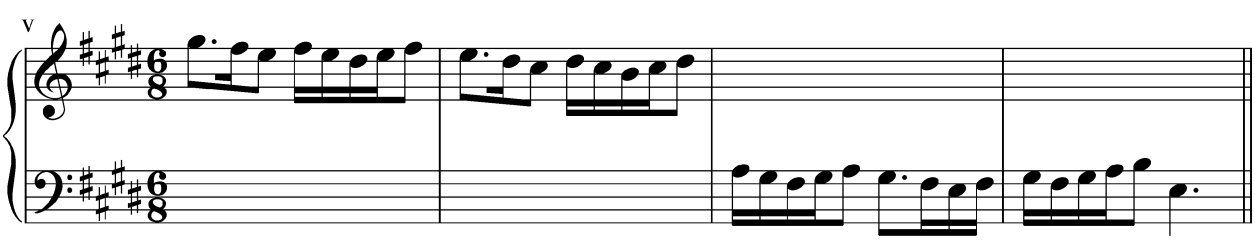

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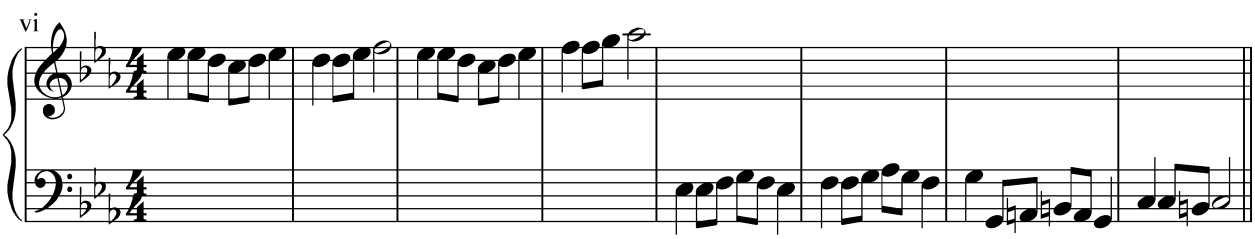

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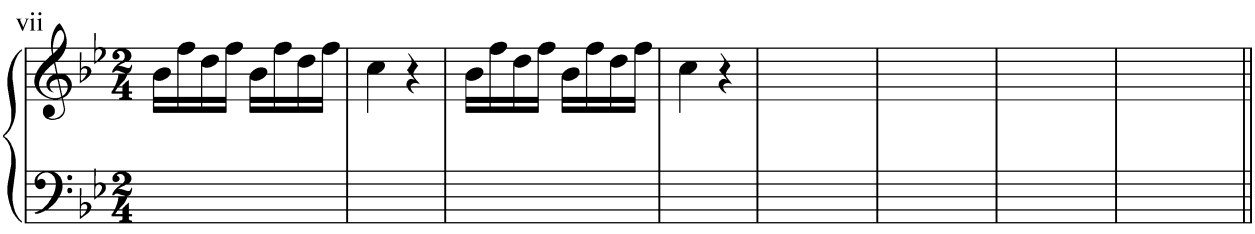
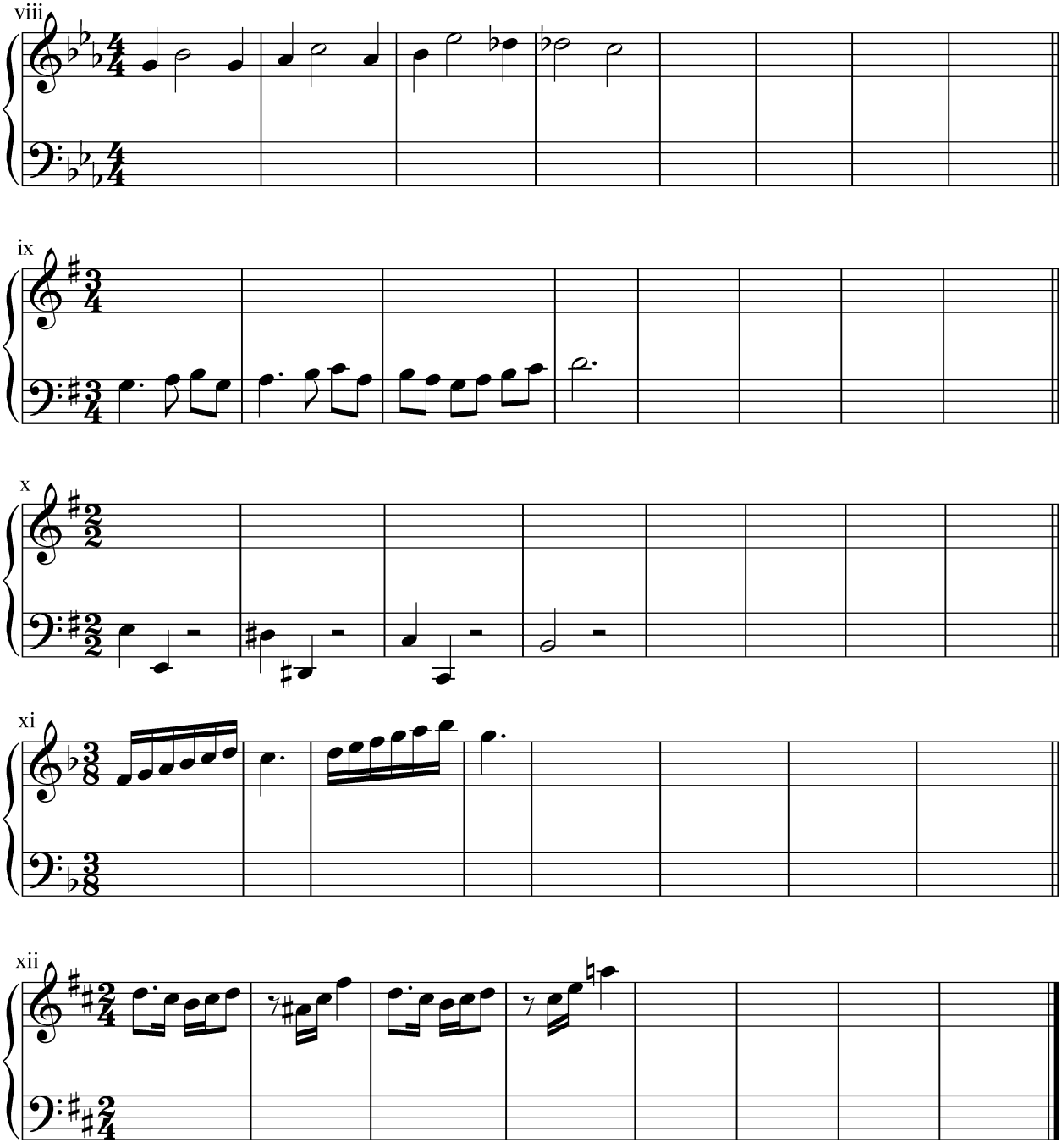




6. Play the following 8-bar schemes first in four parts in keys and time signatures of your own choice. Then improvise simple two-part inventions.

Major keys:

I II$^{7}_{6}$ I^{6} II^{6} V VI V I

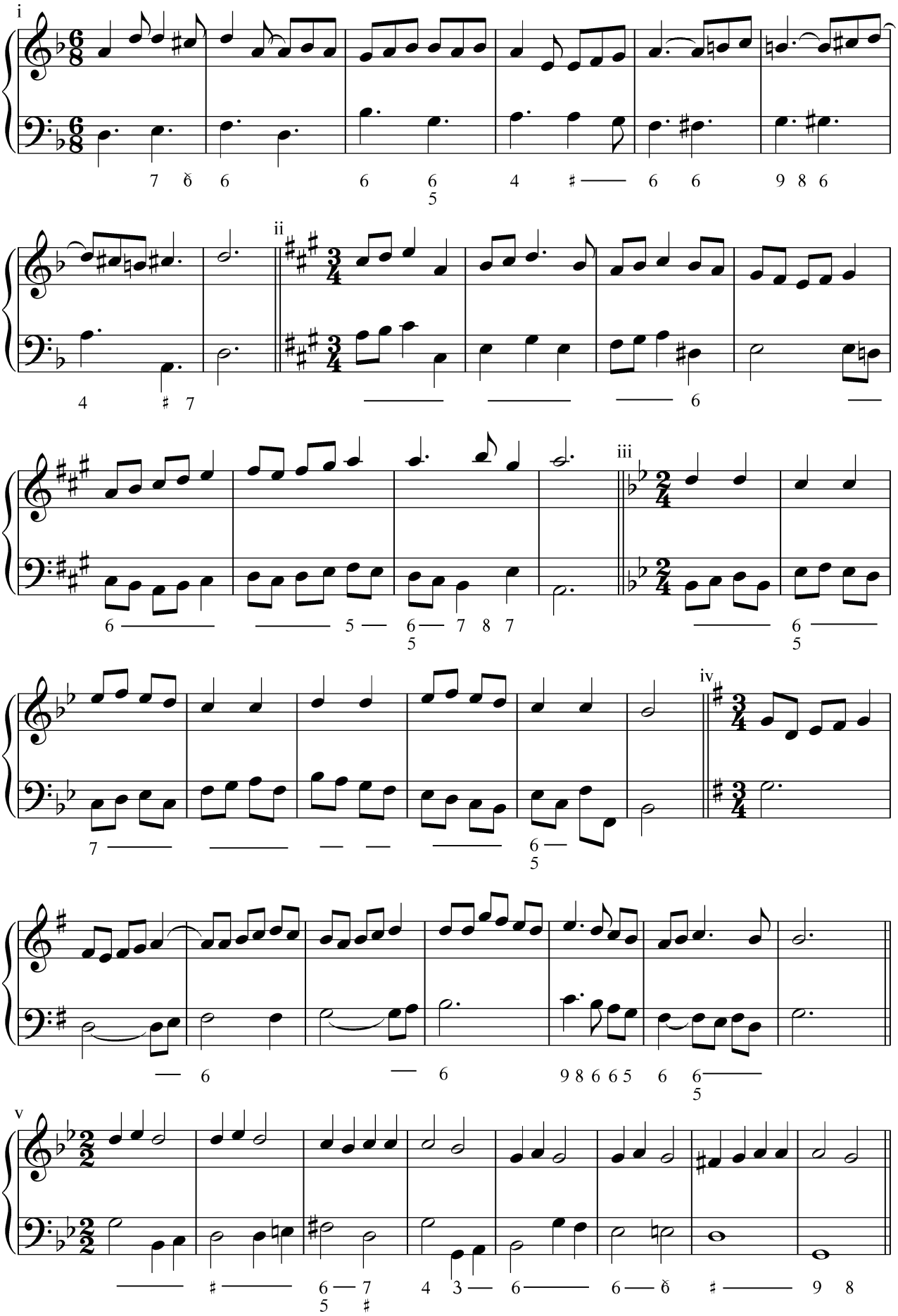
I VI V^{6} V I^{6} IV IV I

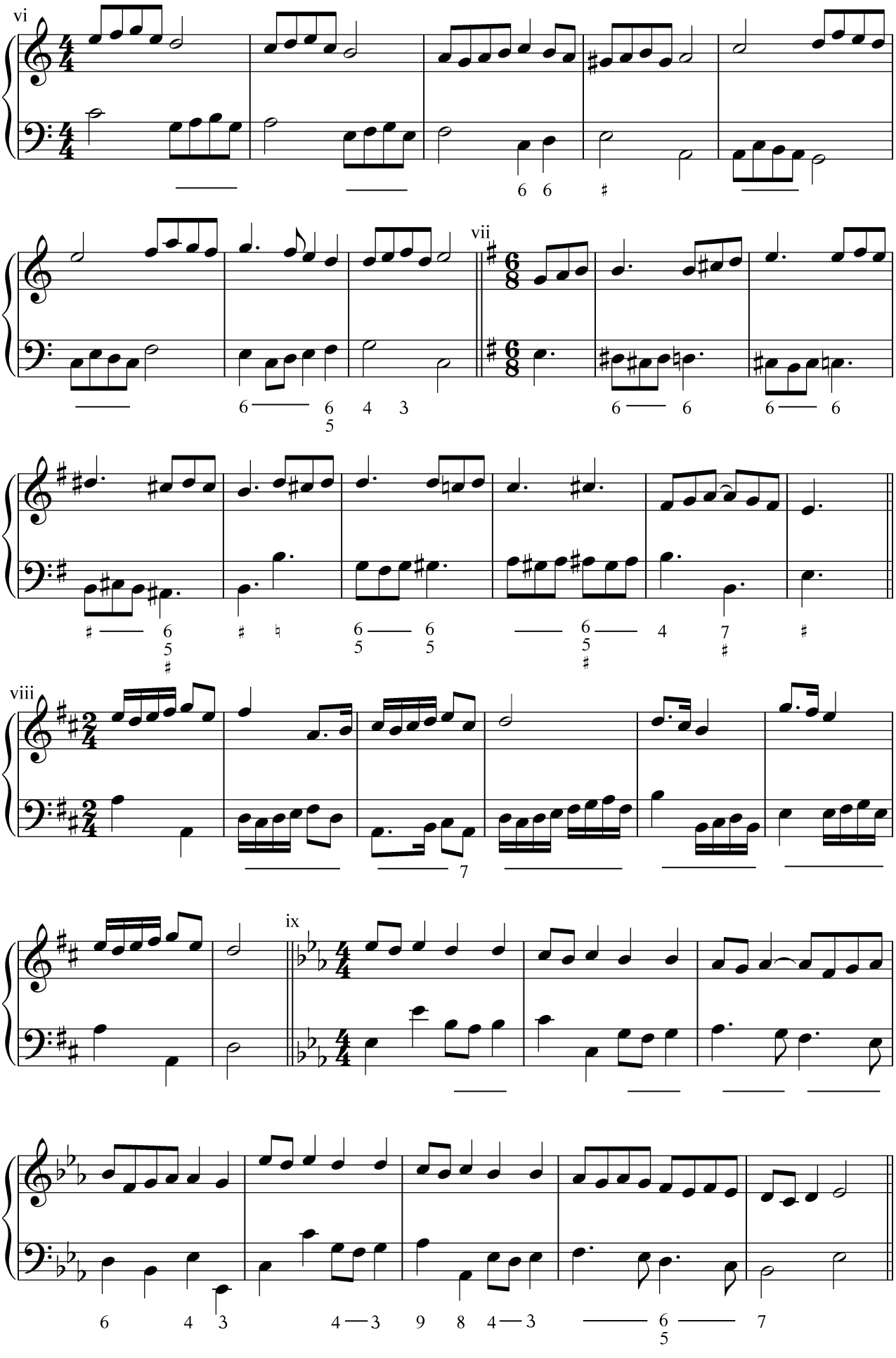
Minor keys:

I V^{6} I IV^{6} IV II V^{7} I

I II$^{7}_{6}$ I^{6} I IV^{6} IV V^{7} I

7. Practise the following exercises in four parts:

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vii
viii
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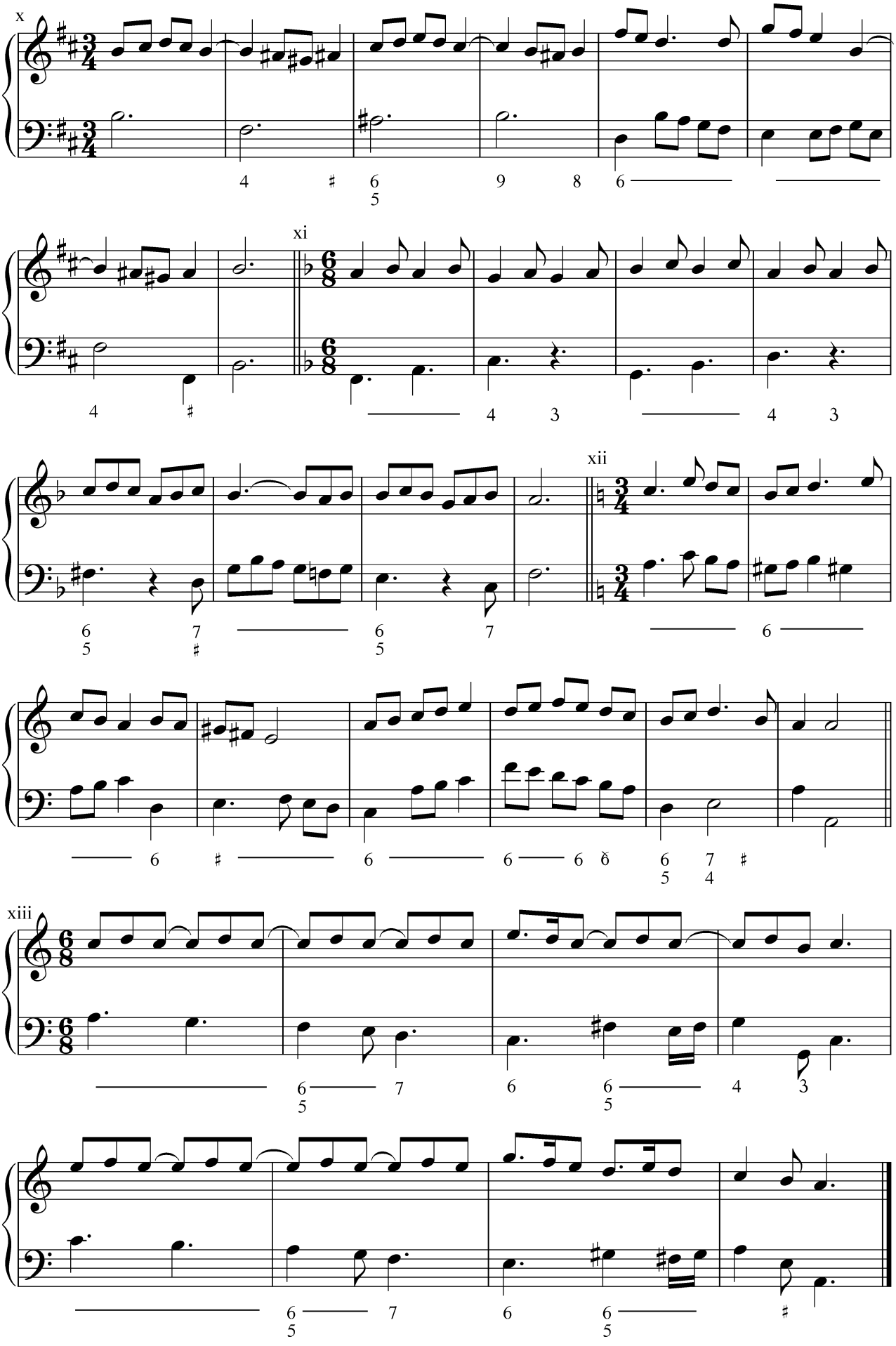
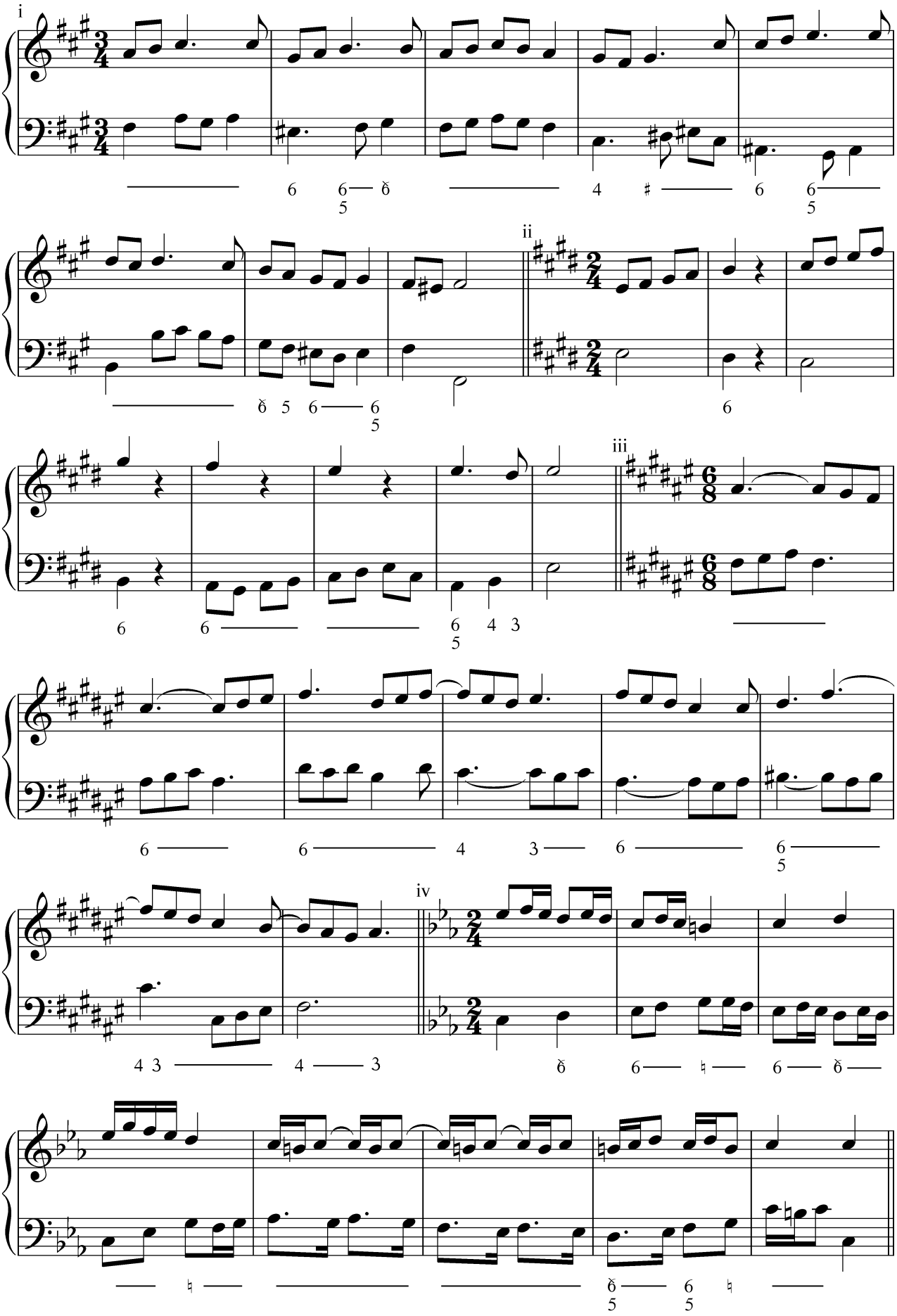
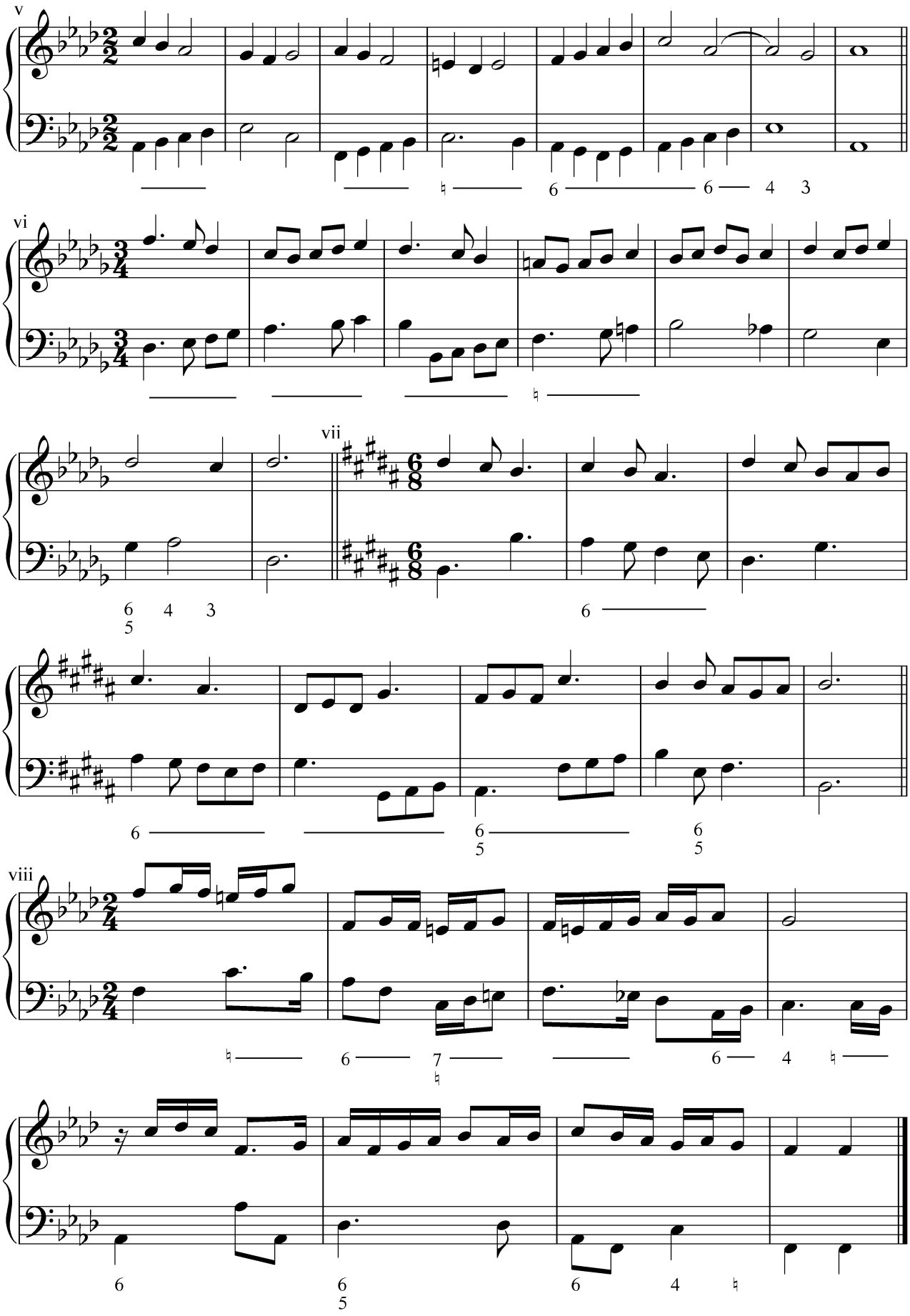

x
xi
xii
xiii

[8]. Practise the following exercises in four parts:





9.* Repeat ex.7 [and 8] with a solo stop and pedals.

6

FIGURATION (ii)

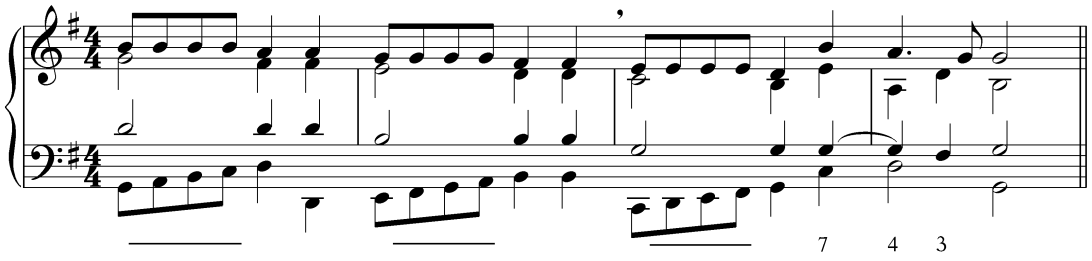
The character of the melody
Chord changes and pulse

The character of the melody

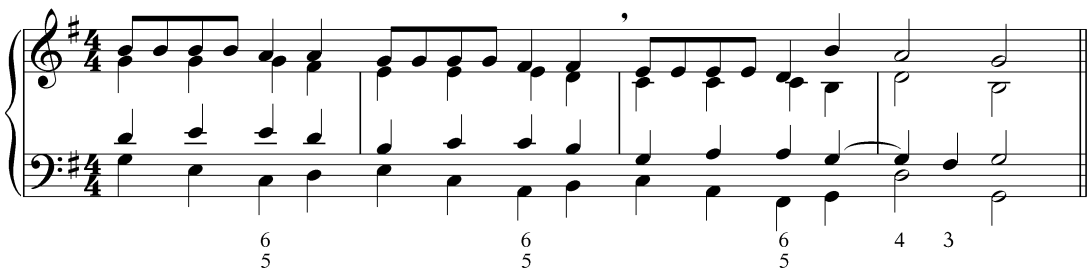
As our skill in harmonisation develops, so does the vocabulary from which we can chose. After much practice, we will be able to harmonise a particular melody in many different ways, and this fascinating prospect brings with it considerable freedom in the choices we make. At the same time, it remains equally fascinating to study the settings that composers made of their own melodies. Here, melody and harmonisation form a stylistic unity, and much can be learnt from such examples. In the end, however, the player must develop his own approach. But there are many different sorts of melodies, and this colourful landscape would become rather grey if we were to harmonise them all in the same way.

Chord changes and pulse

In order to make wise and tasteful choices in our harmonisation, we must first give due consideration to the melody. It is always advisable to sing it, and in so doing to imagine a certain pulse. Tempo and pulse are of influence on the question of which notes of the melody require a change of chord, and which ones can be treated as figuration.
After the previous chapter, we no longer need to assume that all our melodies must be harmonised note-against-note. We have examined examples in which the brisk rhythms of the melody were best supported by less frequent changes of chord. Let us look once more at Neander's(?) setting of *Wunderbarer König*:

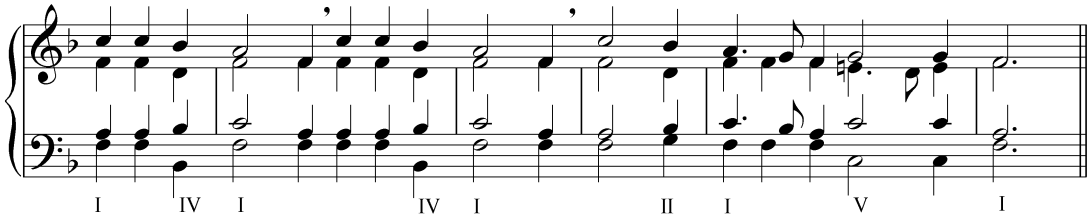


The melody has quite a different character and pulse than if we were to harmonise it as follows:

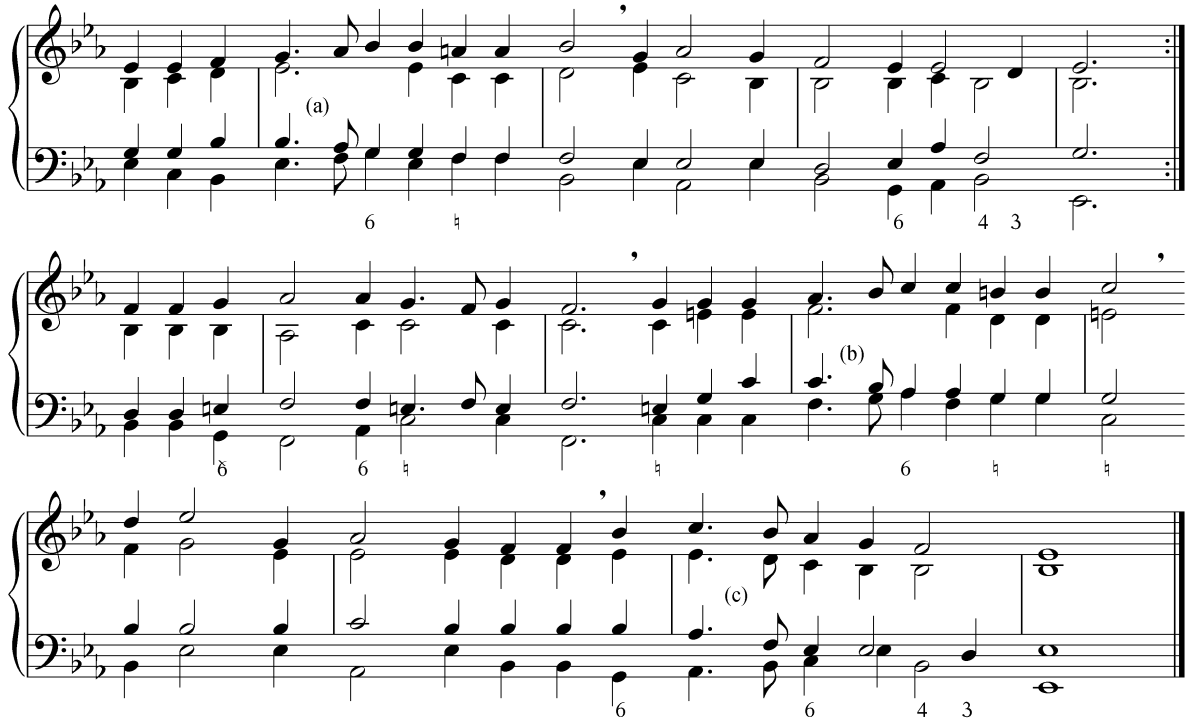


The main drawback of the second setting is that the harmony changes on the crotchet, while the melody surely suggests a change on the minim, underlining the pulse.

In Part I ch.16 we considered the impressive simplicity of the opening of Gastoldi's 1591 setting of *In dir ist Freude*:



The pulse - in dotted minims - is reinforced by the setting. It is precisely the limited number of chord changes that gives this melody - a Renaissance dance tune or *balletto* - its enormous drive. A chord change on each quarter note would have consequences not only for the character of the melody, but also for the tempo. Compare Johann Schop's melody *Ermuntre dich, mein schwacher Geist*, of which the first version dates from 1641; the setting written somewhat later by Gottfried Vopelius (who died in 1715) is as follows:



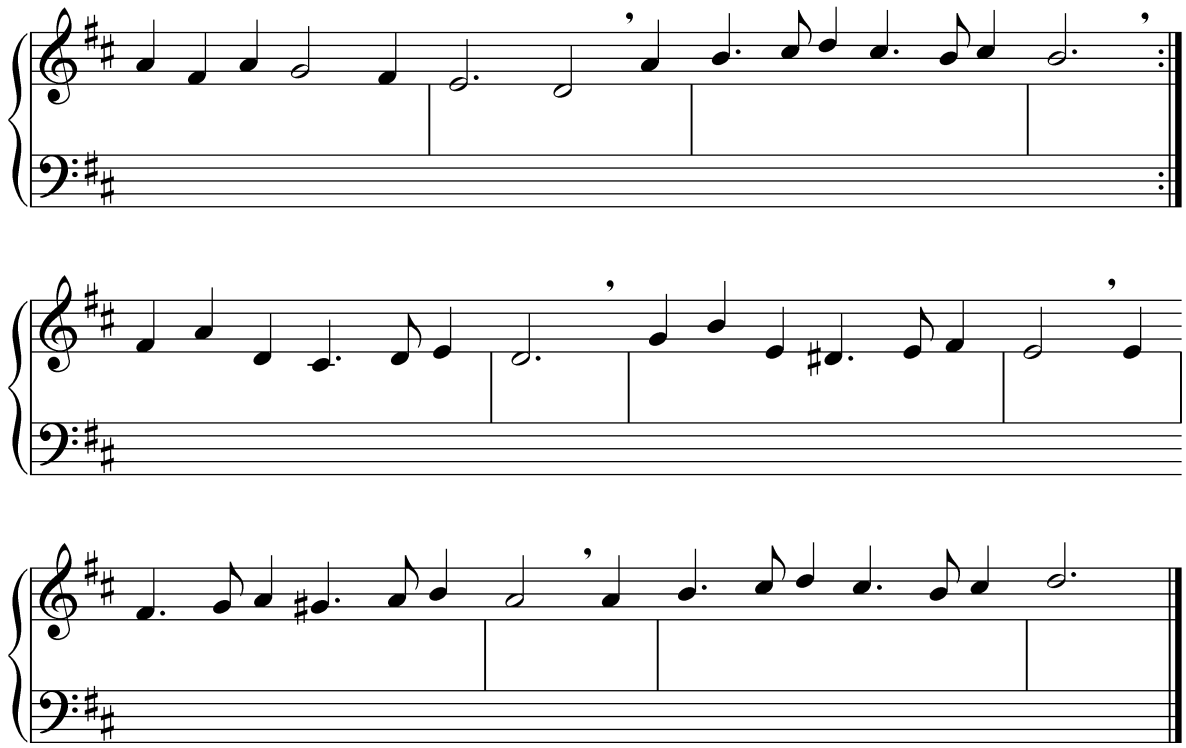
At (a) and (b) the root position is followed by the 1st inversion of the same chord (and then the root position again); in between, the soprano and bass have passing notes in parallel 3rds (with contrary motion in the tenor). This supple writing, without a change of chord, supports the pulse of the melody; the same goes for the limited number of chord changes in the second and third systems. Good composers, however, cannot be restrained by rules: the quaver at (c), between the root position and 1st inversion on IV, and the 'upbeat' beginnings of most lines, are harmonised note-against-note by Vopelius. The pulse is similar to that of Gastoldi's setting, but the character is somewhat different, perhaps requiring a slightly slower tempo.

These are just a few examples of relationships between structure and figuration, between hamonisation and pulse. In writing our own settings, the frequency of the chord changes should take account as far as possible of the pulse of the melody. Which notes should be 'structurally' harmonised note-against-note? Which notes require a less frequent change of chord, taking 'figurative' auxiliary and passing notes into account? Our task is to ensure that each melody is harmonised convincingly, taking a place of its own in the colourful musical landscape.

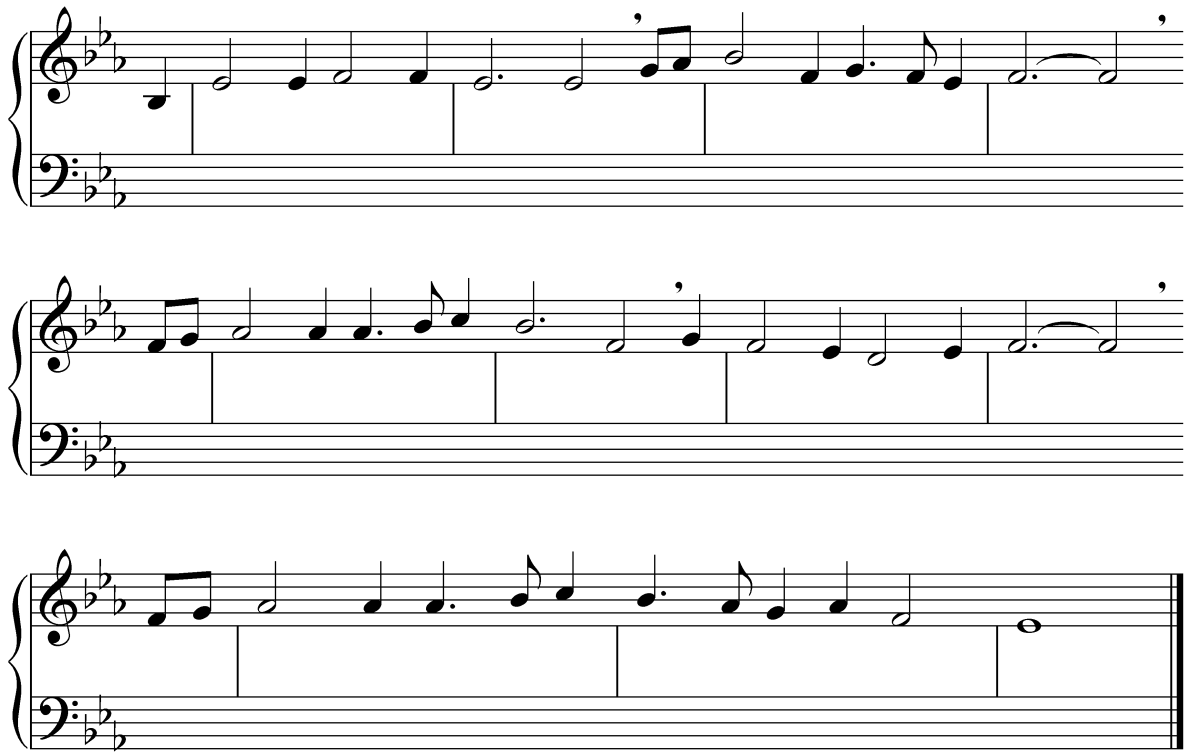
EXERCISES:

1. Write a bass to the following chorales, taking account of auxiliary and passing notes and the pulse of the melody. Play the settings in four parts.

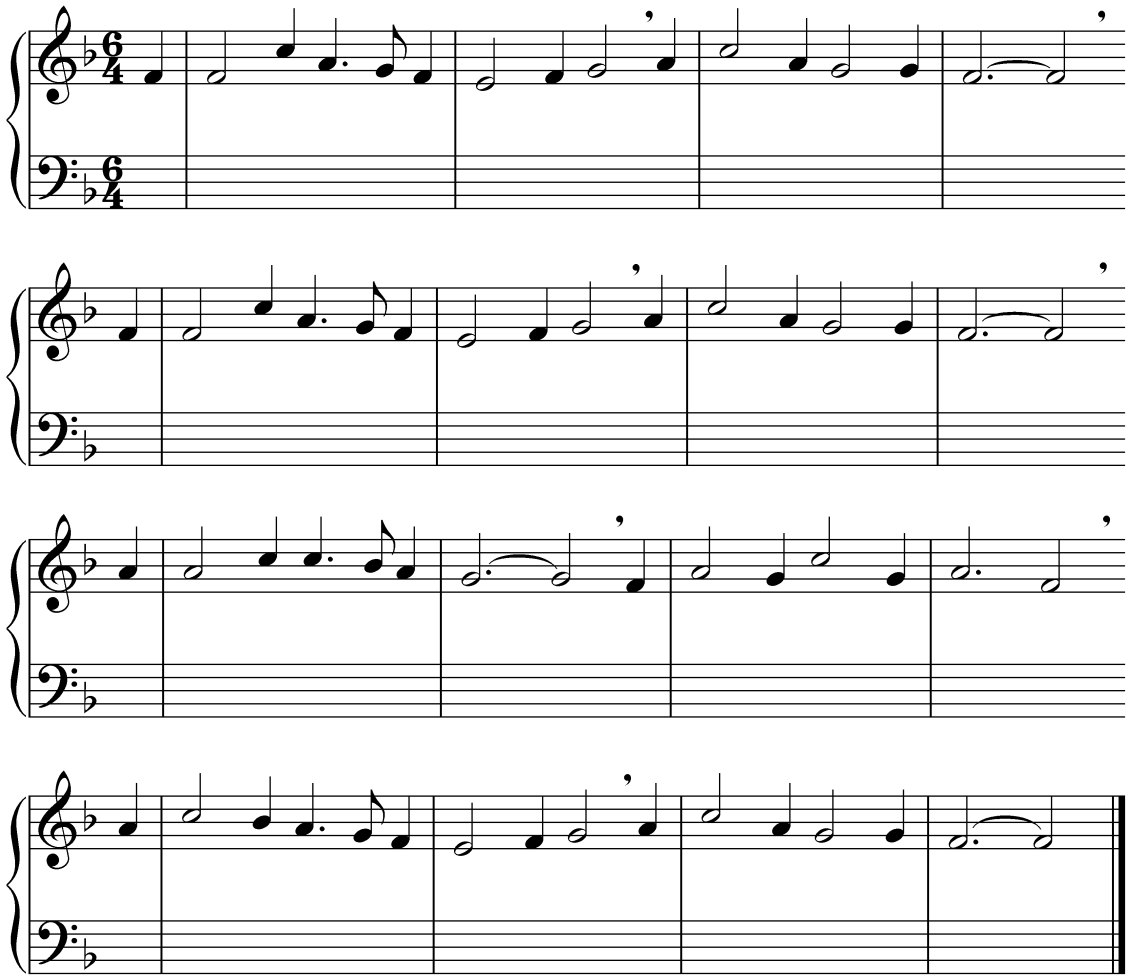
(a) *Auf, auf, mein Herz, mit Freuden*



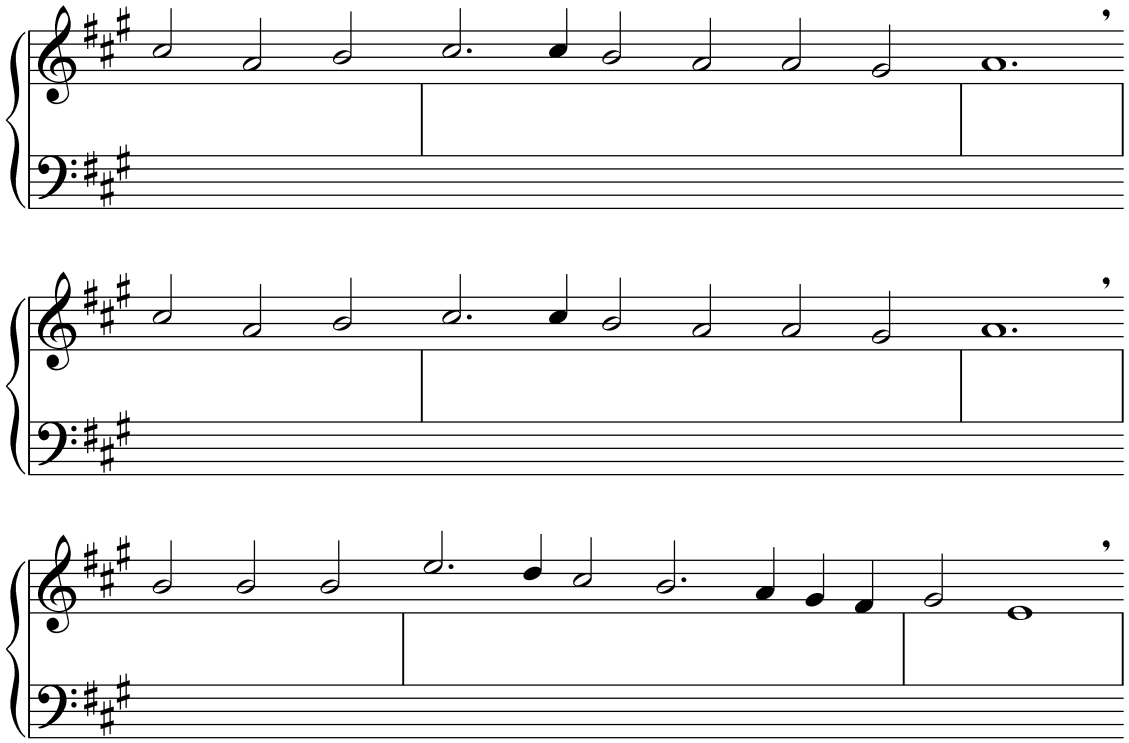
(b) *Het daget in den oosten*

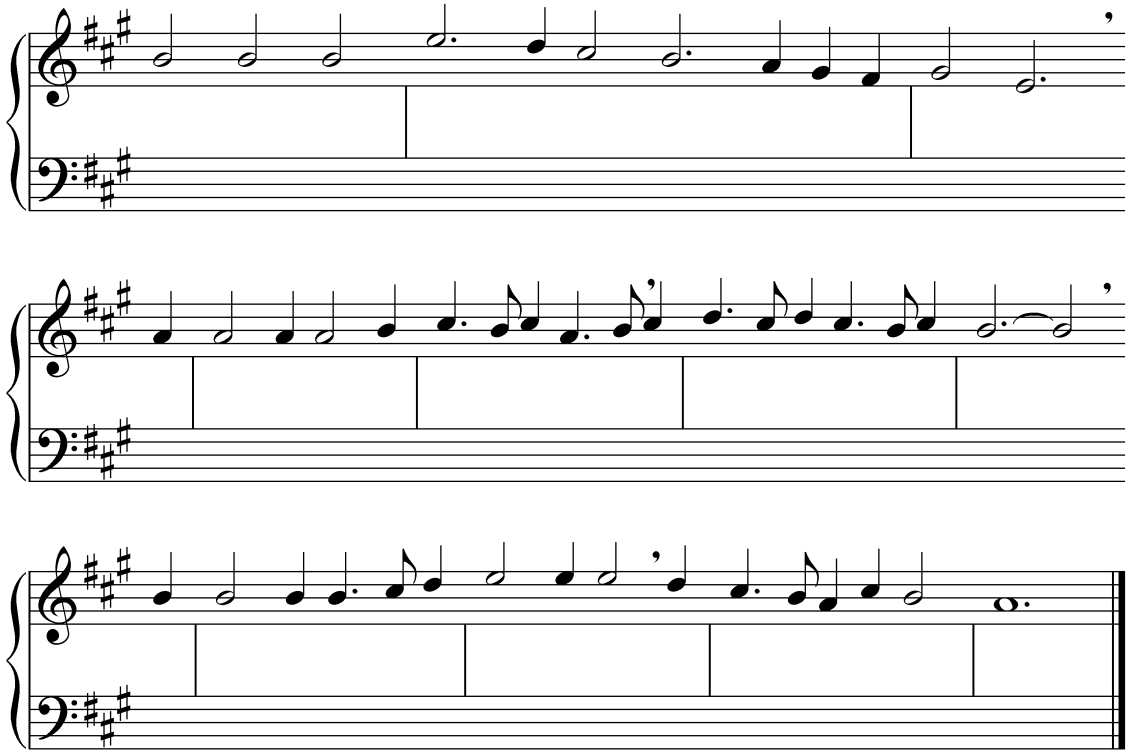


(c) *Aus meines Herzens Grunde*

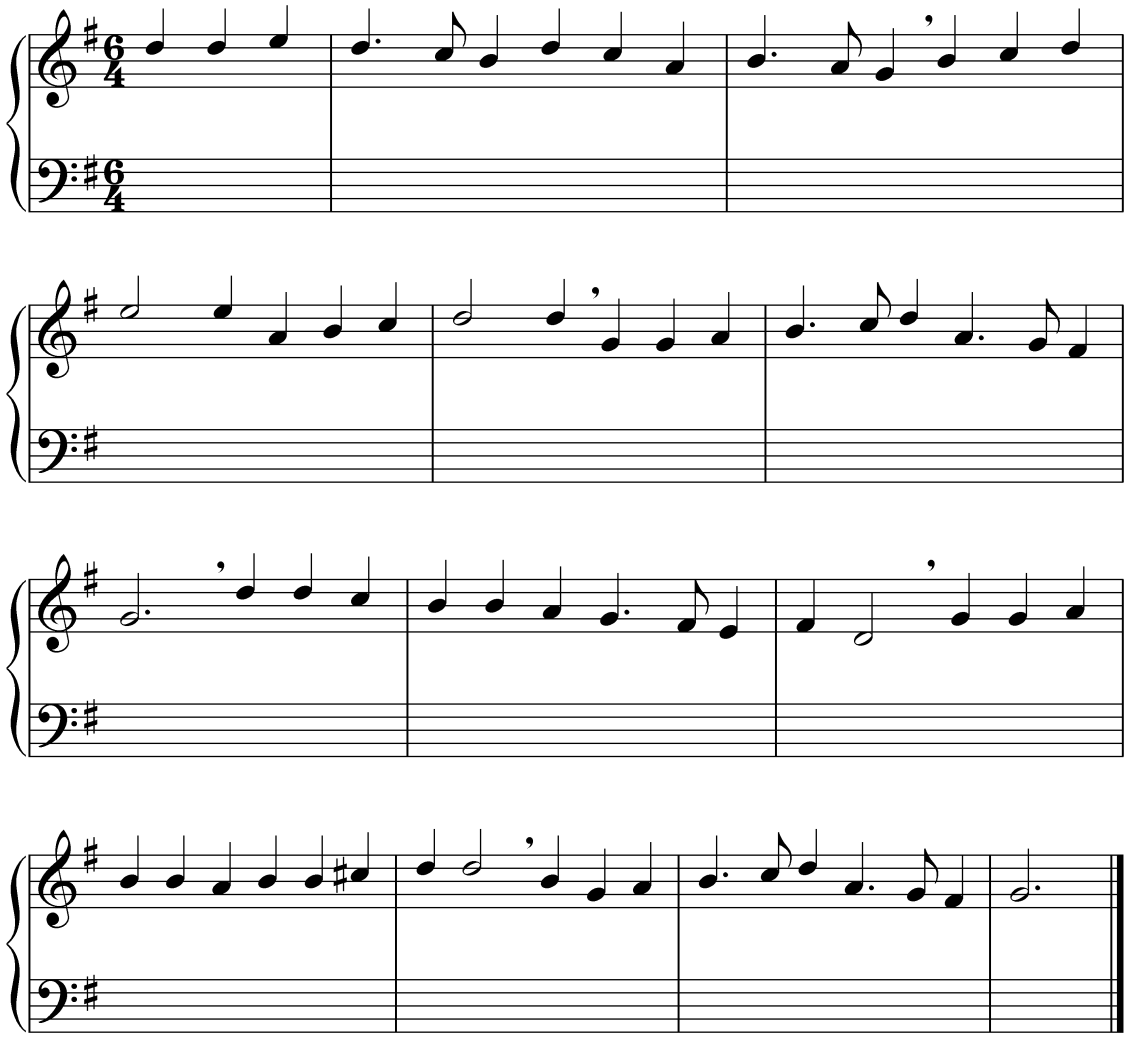


(d) *O Heer, die daar des hemels tente spreidt*

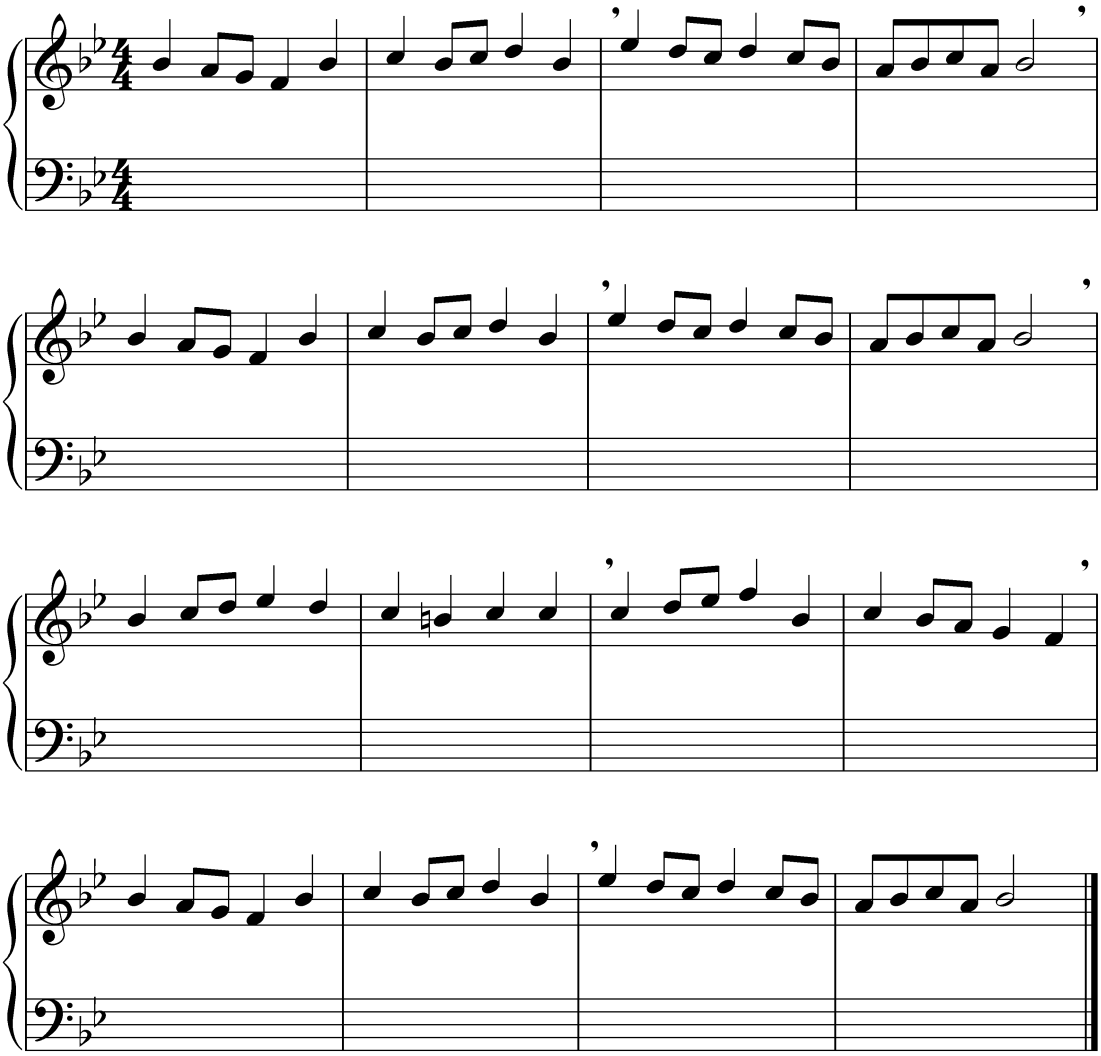




(e) *Die güldne Sonne voll Freud und Wonne*

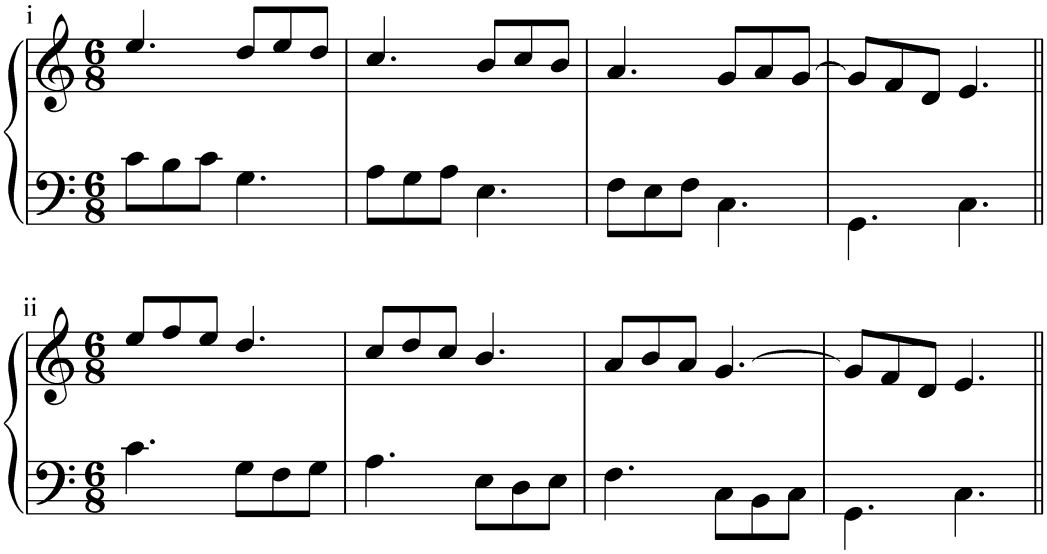


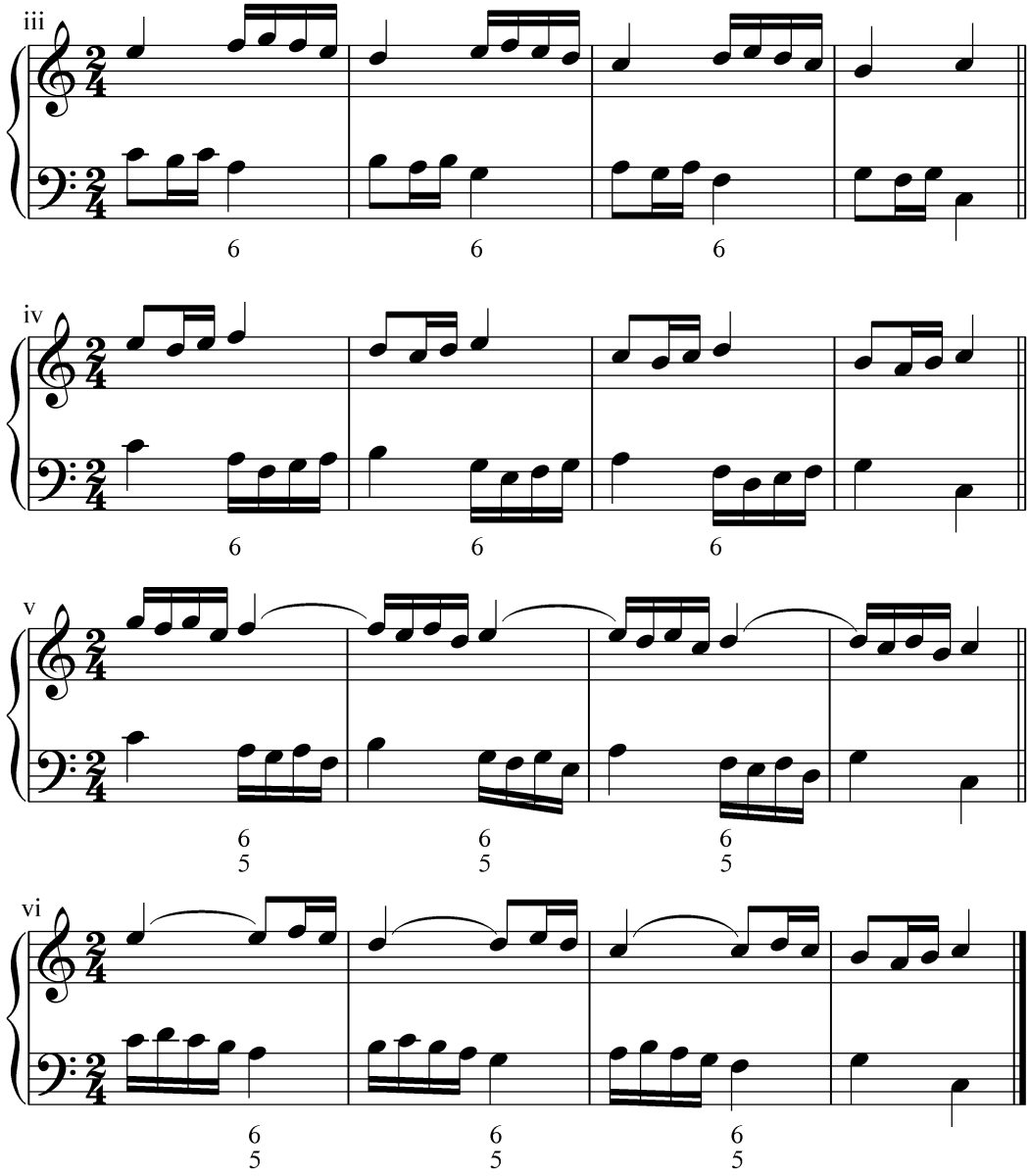
(f) *In babilone*



2. Practise the following transpositions: *Auf, auf, mein Herz* in C and E flat; *Het daget in den oosten* in F and D; *Aus meines Herzens Grunde* in E flat and G; *O Heer, die daar des hemels tente spreidt* in G and B flat; *Die güldne Sonne* in A and F; *In babilone* in A and G.

3. Play the following sequences in all major keys:





4.* Repeat the sequences with a solo stop and pedals.

5. Improvise two-part inventions on the following 8-bar schemes:

(i) including the major keys of D, A, B flat and E flat:

I VII^6 I^6 V VI II V I

I V VI III IV V V I

I VI II V^6 I IV^6 V^7 I

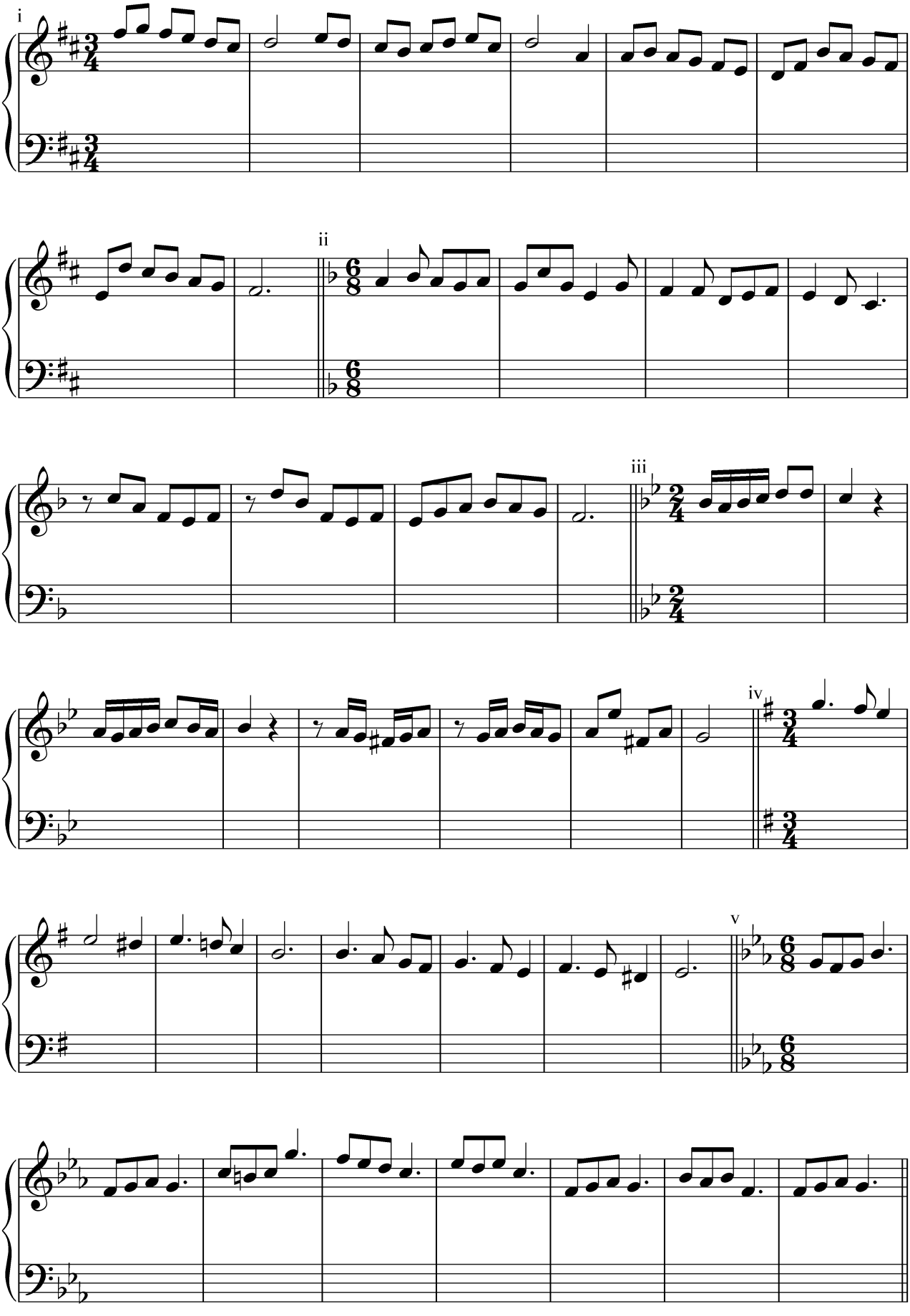
(ii) including the minor keys of E and B:

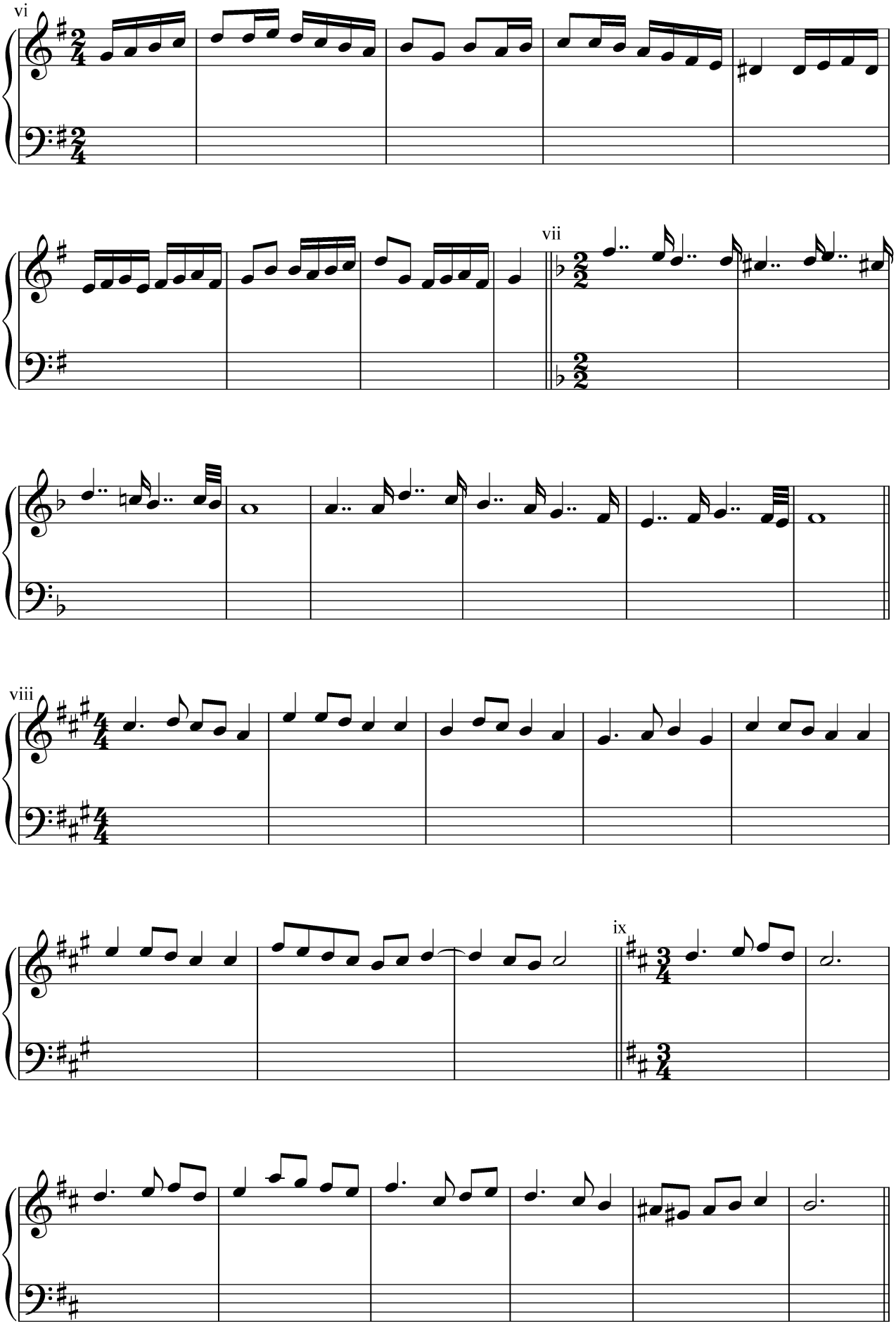
I I^6 IV V IV^6 IV V I

I V^6 I VII^6 I^6 IV V I

I VII^6 I^6 I IV^6 II^6 V I

6. Write a bass to the following melodies and play in four parts:

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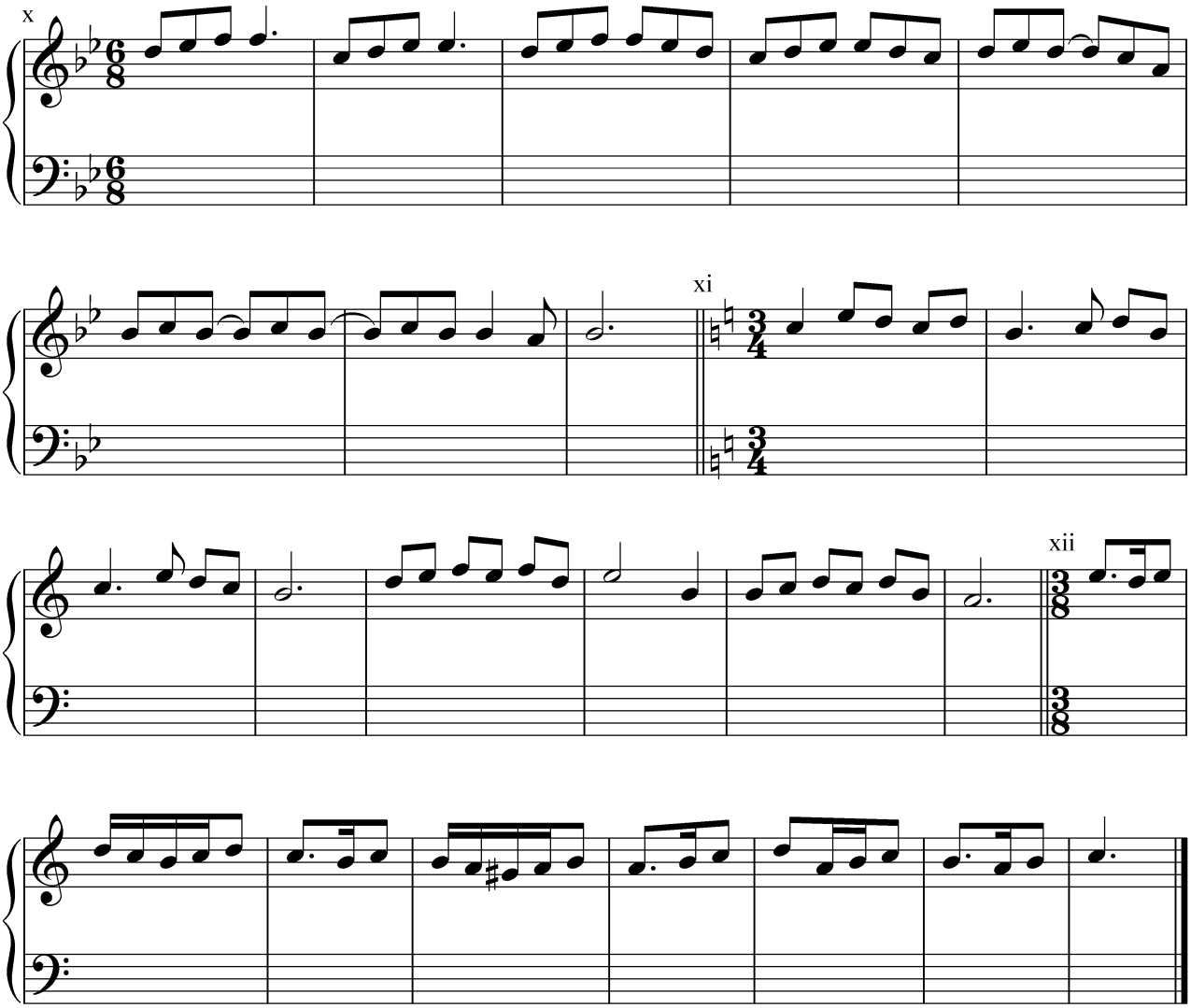
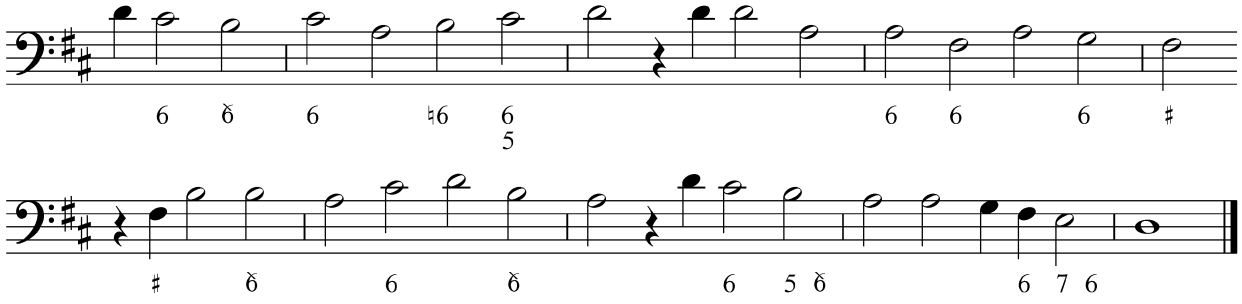
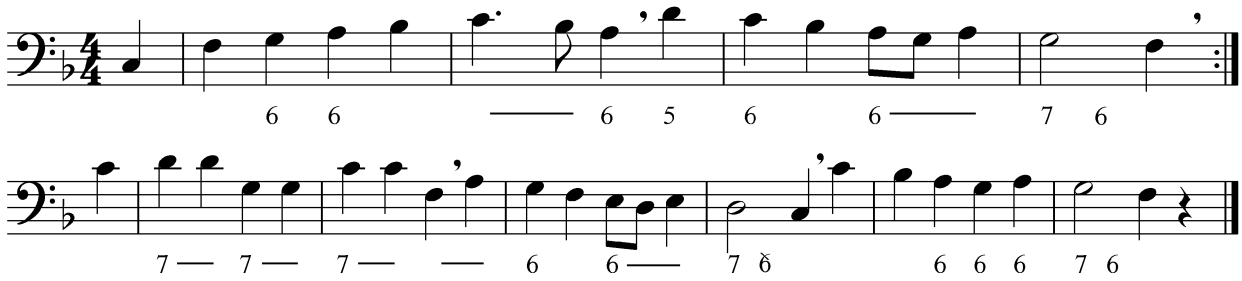


7. Harmonise the following figured basses in different positions:

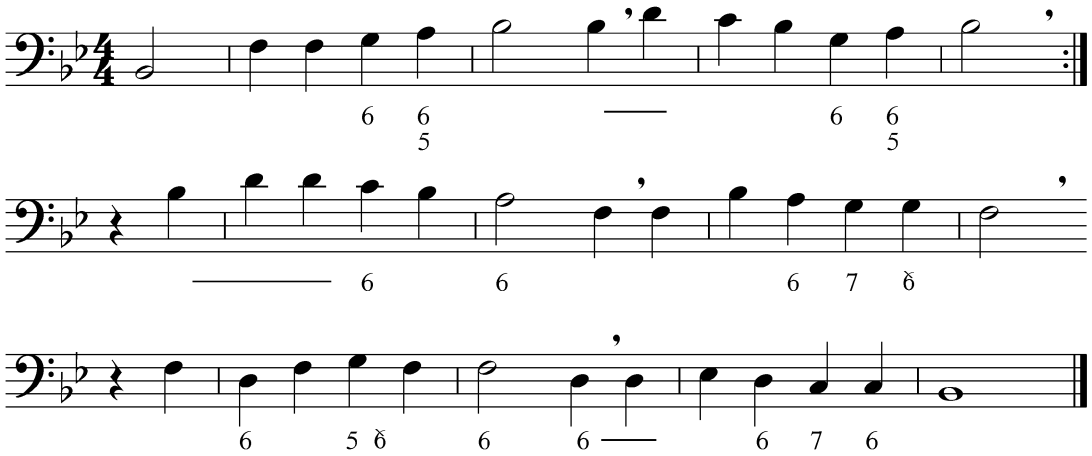
(a) *Vom Himmel hoch da komm ich her*



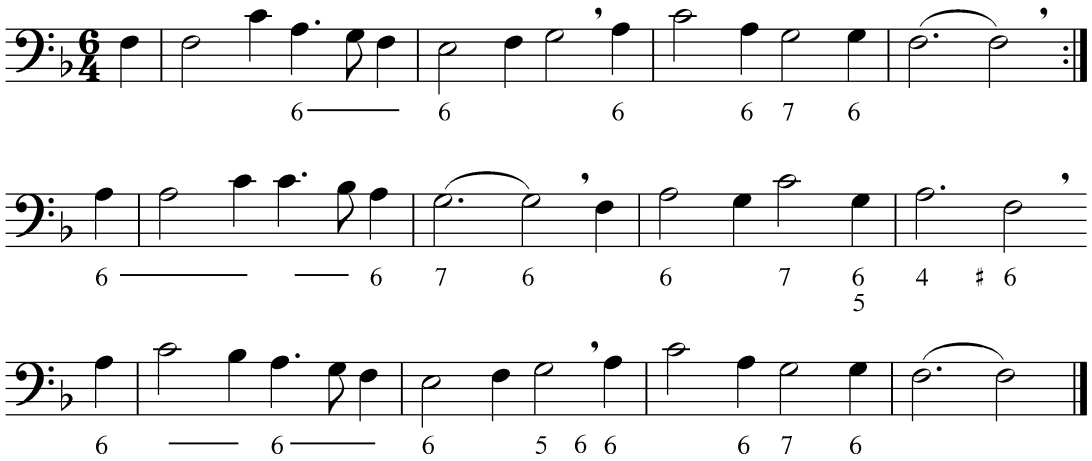
(b) *Was Gott tut, das ist wohlgetan*



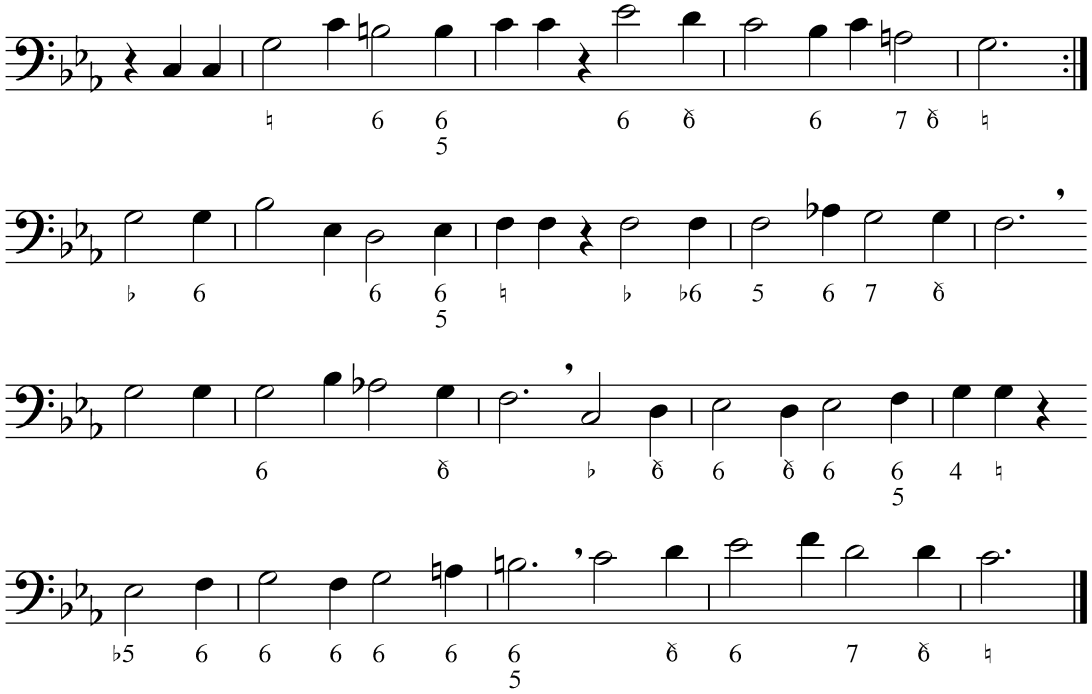
(c) *Valet will ich dir geben*



(d) *Aus meines Herzens Grunde*



(e) *Sollt ich meinem Gott nicht singen*



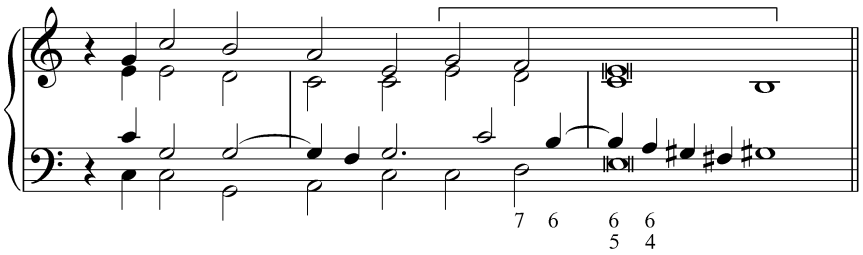
7

THE SIX-FOUR-CHORD (i)

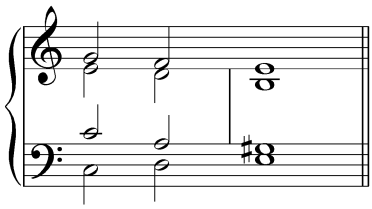
The 6-4-chord
The ‘appoggiatura’ or ‘cadential’ 6-4-chord

The 6-4-chord

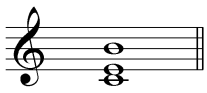
Chorale harmonisations are traditionally homophonic. Sometimes, however, traces of Renaissance polyphony linger, when the horizontal movement of the four parts almost seems to determine the chords. Here is an example from Michael Praetorius’s setting of *Aus tiefer Not* (1609):



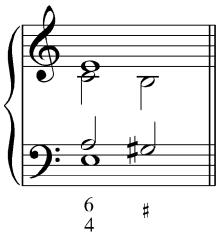
The final cadence progression is basically as follows:



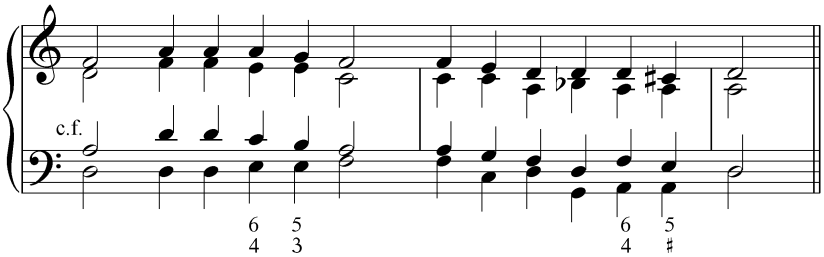
But as so often in music, the most exciting moments occur when the composer does the unexpected. In Praetorius’s setting, the C in the tenor is delayed, beginning later (as an expressive syncopation), going on to become the 7th in the 7-6 suspension to the B; at the end of the penultimate bar we briefly hear the diminished triad. In the last bar, the alto does not move directly to the final note B but first to the 6th C, causing a wonderful, linear 6-5 dissonance between the alto and tenor.
(This 6-5 dissonance could be ‘vertically’ analysed as the 1st inversion of the 7-chord on C:



but this somewhat theoretical approach is hardly convincing, for there can be no doubt that Praetorius viewed E as the root of the entire final bar.)
As the 6-5 dissonance is resolved, the tenor descends from the 5th to the 4th. It is at this point that we hear the **6-4-chord**. The tension of the 6-5 dissonance is released, but not entirely removed, for we sense that the 6-4-chord too requires a descending movement: the 6th falls to the 5th and the 4th to the 3rd:

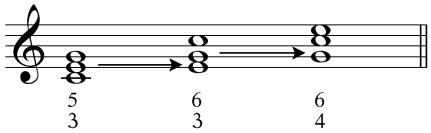


In the 150 metrical psalm settings by Claude Goudimel, dating from 1565 (more than 40 years before Praetorius's setting), the 6-4-chord is even less common than the 6-chord. It is therefore remarkable that it occurs no less than twice in the second phrase of Psalm 128:[+]



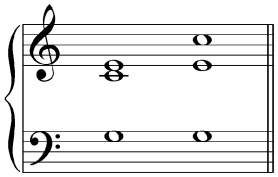
In Goudimel's first 6-4-chord, the tension of descending movement from the sixth to the fifth in the cantus firmus is strengthened by similar movement from the fourth to the third in the soprano, almost lending this progression the character of a suspension and resolution. The progression combines movements discussed at the beginning of Part II of *The Lost Chord*, where in the descending scale we noted the release of tension when the 6th falls to the 5th, and the 4th to the 3rd, and it also recalls the origins of the 6-chord discussed in ch.7 of the same volume. The 'downward pull' of the 6-4-chord is 'resolved' by the 5-3-chord above the common bass note. For this reason the 6-4-chord in the example by Goudimel is sometimes called the appoggiatura 6-4-chord. The second of Goudimel's 6-4-chords is more in line with later usage, when the 6-4-chord became used primarily in the approach to the perfect cadence. It is therefore more commonly referred to as the cadential 6-4-chord, reflecting this standardised use, which will be illustrated later in the chapter.
It is clear from the above that the 6-4-chord is in itself rather unstable, and considerably more so than the 6-chord. Unlike the latter, the 6-4-chord may therefore only be used in specific situations, which will be discussed below and in ch.11.

In the classical theory of harmony from the 18th to the 20th centuries, the 6-4-chord is considered primarily as a vertical phenomen, the **2nd inversion** of the triad:



The root of the triad and its inversions is C. In the inversions, the root C is in an upper part, depending on their distribution. The bass of the 1st inversion is E, and of the 2nd inversion G. The figures are arrived at by adding up from the bass.

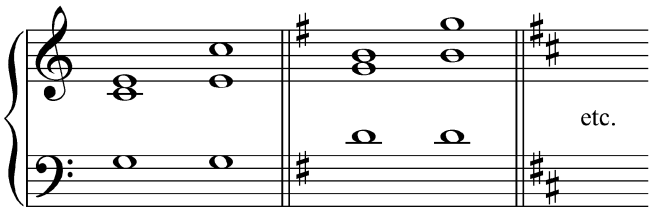
It is of the utmost importance to learn to play new chords more or less automatically. Our vocabulary must be at the ready, so speed in finding the right notes is essential. In the case of triads, it helps to clarify matters if we commence by practising in three parts, without having to double a note to obtain four. In three-part writing, the 6-4-chord is available in two positions, the second of which is in open spacing:



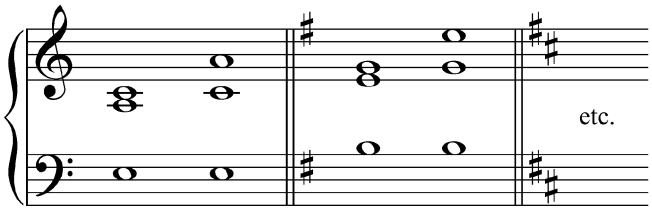
[+] The **cantus firmus** (c.f.), or 'fixed melody', is in the tenor.

EXERCISES:

1. Practise these positions of the 3-part 6-4-chord in all major keys:

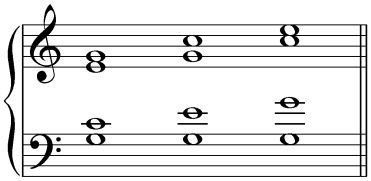


2. Repeat the exercise in all minor keys:

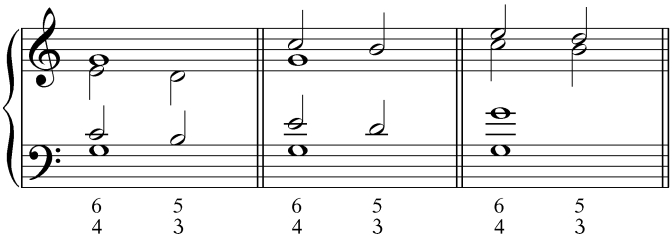


The ‘appoggiatura’ or ‘cadential’ 6-4-chord

By doubling the bass (the 5th of the triad) we can play the 6-4-chord in four parts and three positions:



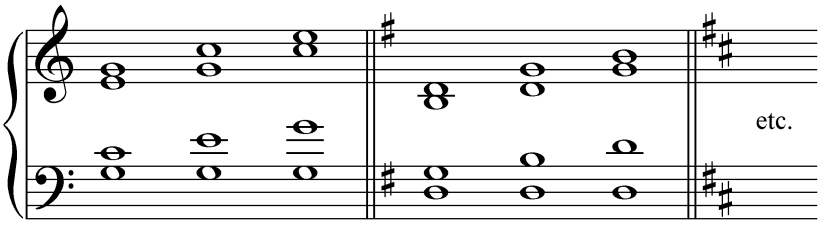
As we have learnt, when a triad is in the root position or 1st inversion, it is preferable to double the root in four-part harmonisation. Doubling of the 5th is therefore a distinguishing feature of the 6-4-chord. If we return to the ‘appoggiatura’ function of the 6-4-chord, the reason why the bass is now doubled becomes clear:



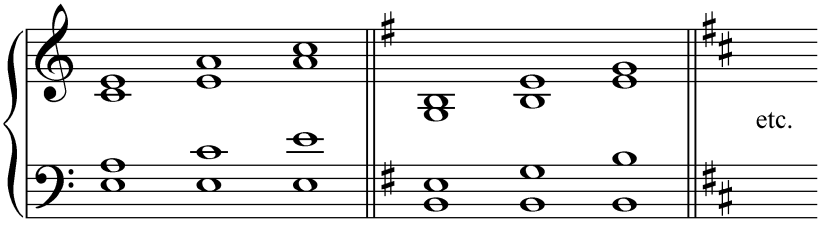
The root C and the 3rd E - forming a double appoggiatura - are given space to manoeuvre, as it were, without colliding with the same note in another part.

EXERCISES:

3. Practise the following positions of the 6-4-chord in all major keys:

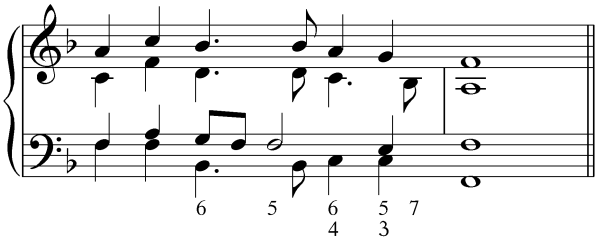


4. Repeat these positions of the 6-4-chord in all minor keys:



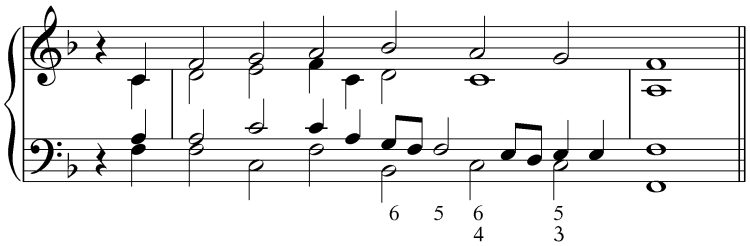
5.* Repeat ex.3 and 4 with a solo stop and pedals.

At the end of John Dowlands *Now, O now, I needs must part* both the 6-chord and the 6-4-chord are used as appoggiaturas:



Above the bass note B flat we hear the 6th ‘resolving’ to the 5th (with a characteristic rhythmic accent formed by the quaver G). Above the bass note C (doubled in the alto) we hear the 6th in the soprano and the 4th in the tenor (in other words, the tonic triad in the 2nd inversion). The tension of the 6-4-chord makes way for the relaxation of the dominant triad in root position, followed by the greatest release of all - the tonic triad in root position.

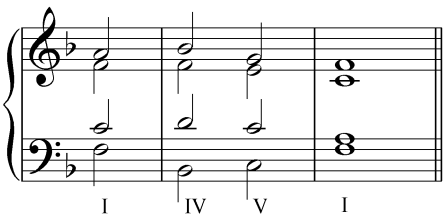
Dowland’s contemporary Bartholomäus Gesius employed the same progression at the close of *O Welt ich muss dich lassen* (1605). As in the Praetorius quotation at the beginning of the chapter, the tenor part is richly ornamented:



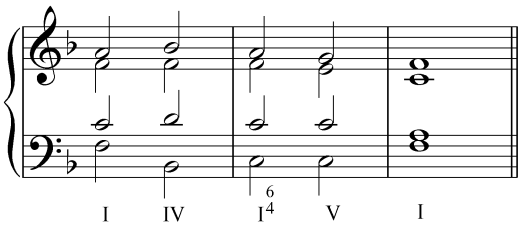
In the examples by Dowland and Gesius we may note that:

- the 2nd inversion of the tonic triad (the 6-4-chord) functions as an appoggiatura preceding the dominant triad in root position, and sharing the same bass (V);
- the 6th descends to the 5th, the 4th to the 3rd;
- the 6-4-chord falls on a relatively strong beat, the succeeding dominant triad on a relatively weak beat.

In the settings by Dowland and Gesius the following I-IV-V-I cadence:

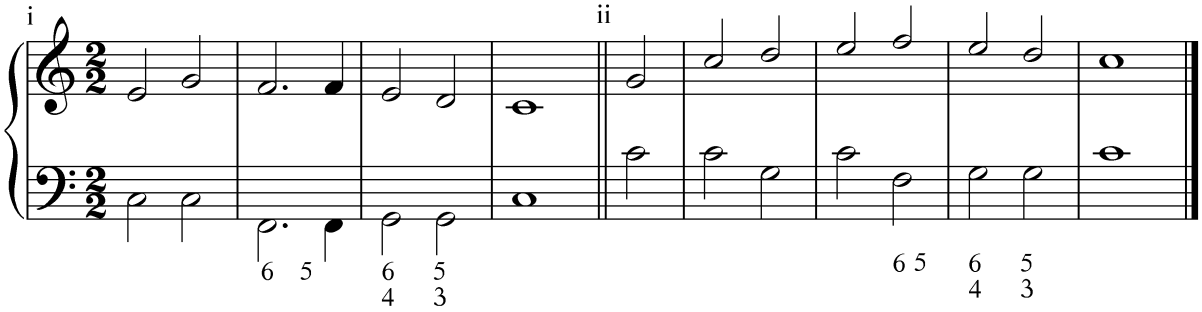


is extended to become:

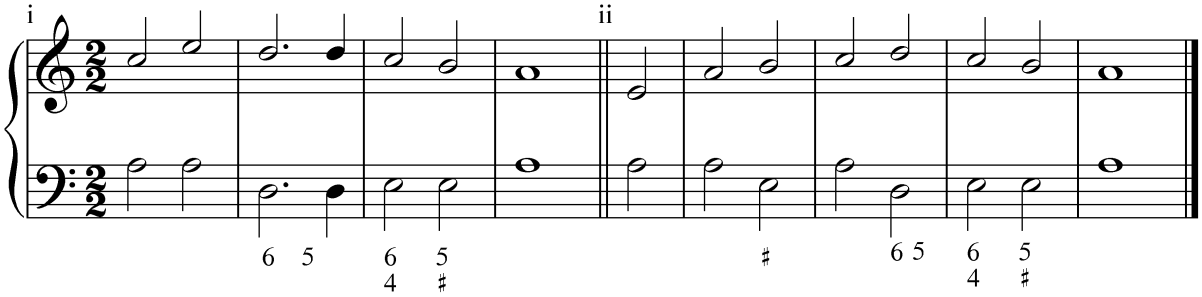


EXERCISES:

6. Play the following phrases in all major keys:

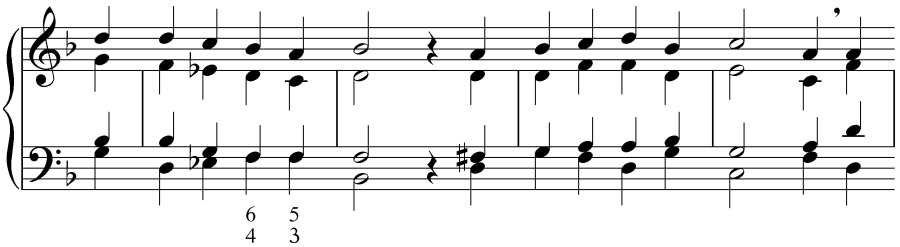


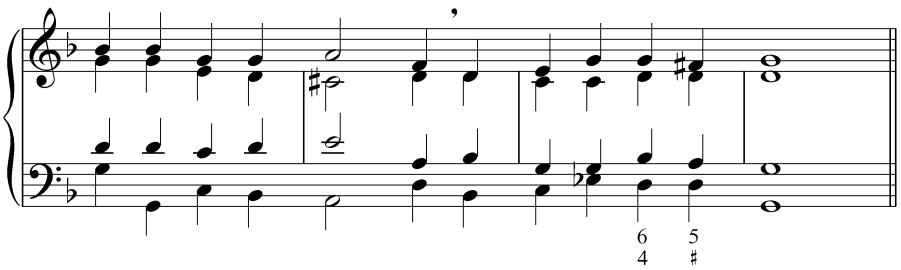
7. Play the following phrases in the minor keys of A, E, B, F sharp, D, G, E and F:



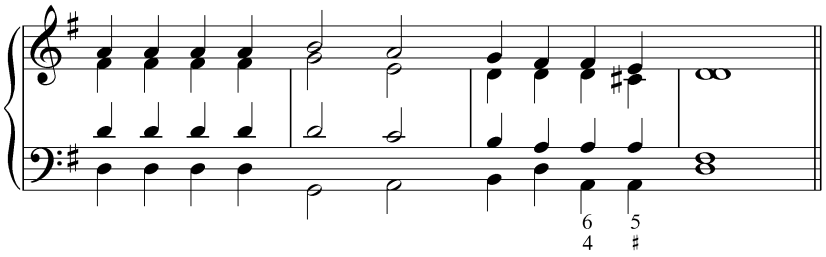
8.* Repeat ex.6 and 7 with a solo stop and pedals.

In chorale harmonisations, the 6-4-chord was uncommon until the early decades of the 17th century, when Michael Praetorius was among its advocates. The second half of his setting of *Von Gott will ich nicht lassen* (1609) is as follows:

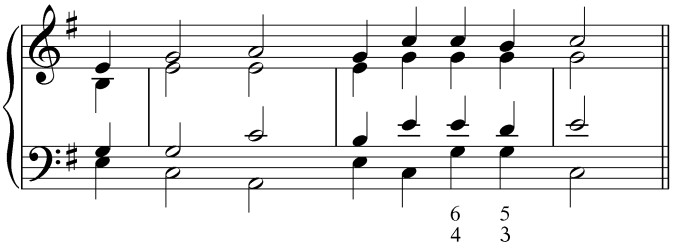




As in Dowland and Gesius, the 6-4-chord is employed in the approach to the V-I cadence. Praetorius's setting of *O wir armen Sünder*, dating from the same year, begins as follows:



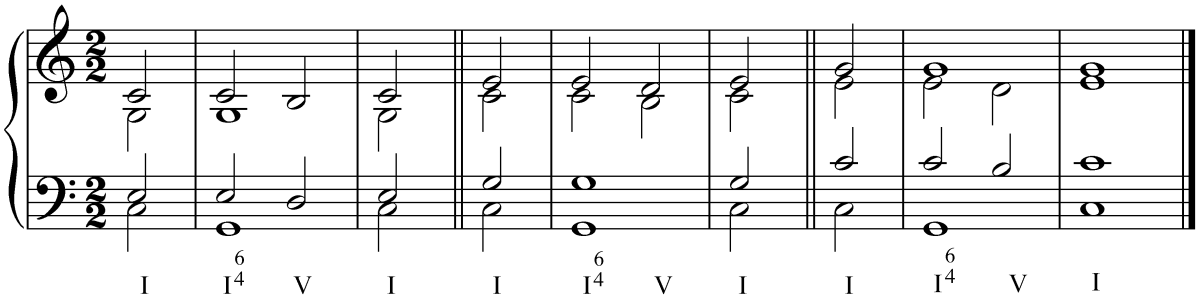
while his setting of *Was mein Gott will, das g'scheh allzeit* begins:



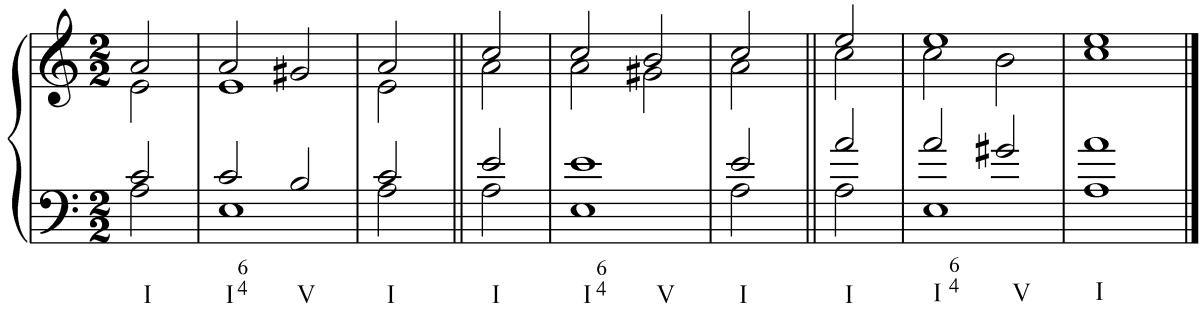
These melodies appear to require the cadential 6-4-chord, as it came to be known, almost as a necessity (this is particularly true of *O wir armen Sünder*, where the second F sharp in the melody strongly suggests movement from the 6th to the 5th). In the second half of the 18th century, in the music of Carl Philipp Emanuel Bach, Haydn and Mozart, the cadential 6-4-chord became a standard feature of the style. We will shortly harmonise melodies whose shape is influenced to such an extent by the popularity of this chord, that we simply cannot harmonise without it. More about this in ch.11.

EXERCISES:

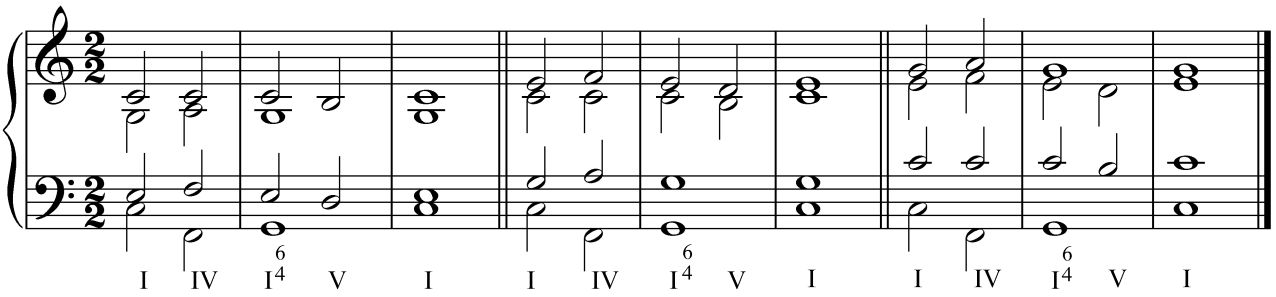
9. Practise the following cadences in all major keys; the 6-4-chord is preceded by degree I in root position, thus 'preparing' the following appoggiatura:



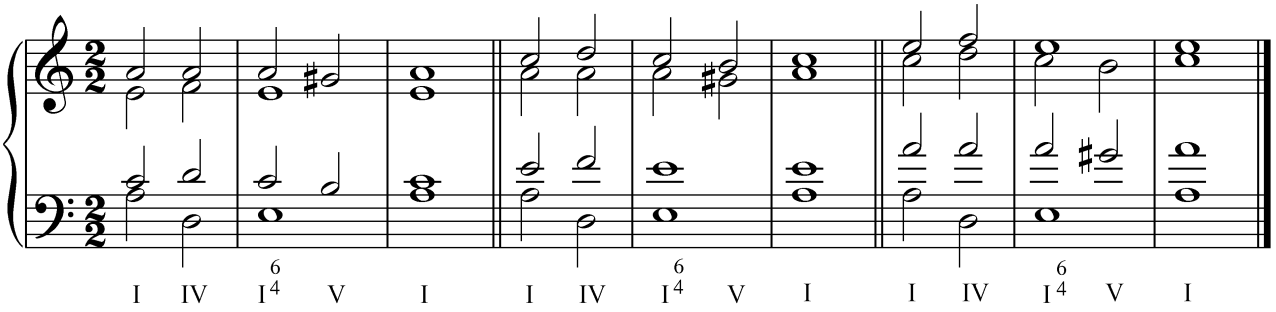
10. Practise the following cadences in all minor keys:



11. Practise the following cadences in all major keys; the 6-4-chord is preceded by IV in root position:

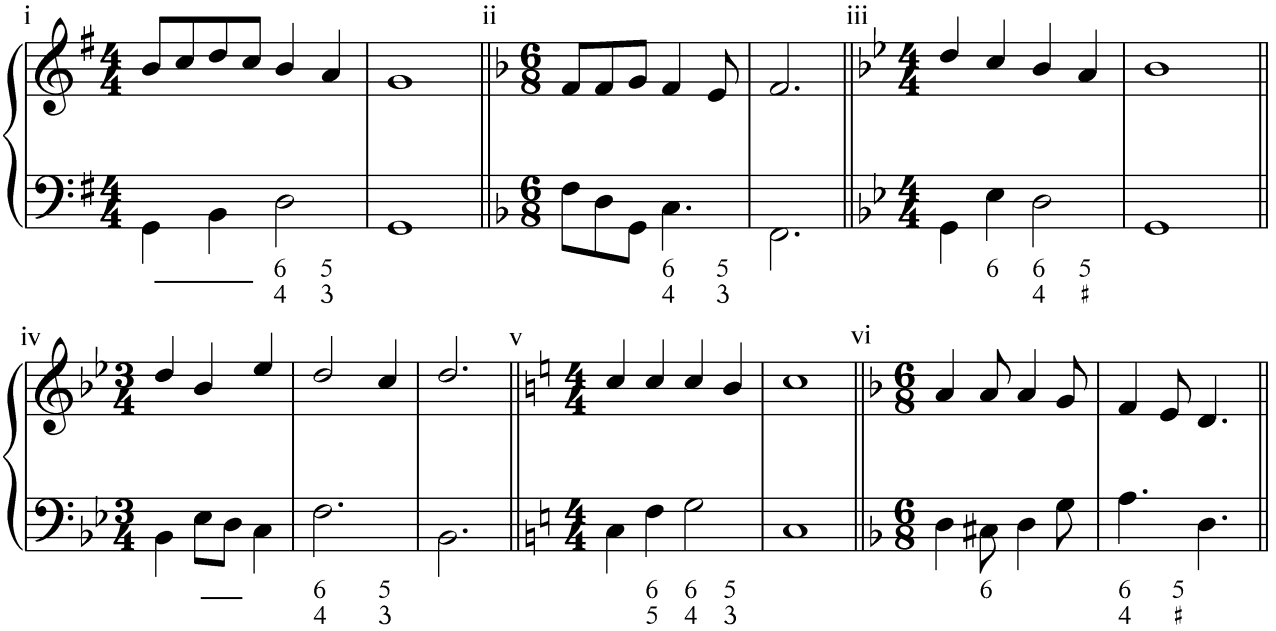


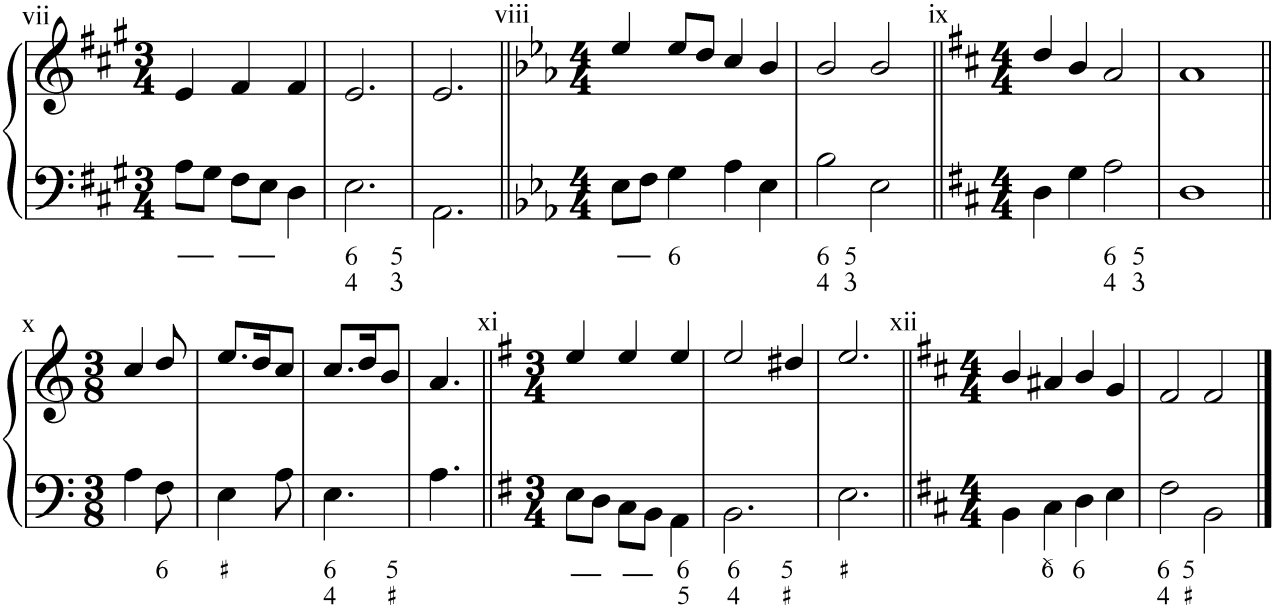
12. Practise the following cadences in all minor keys:



13.* Repeat ex.9-12 with a solo stop and pedals.

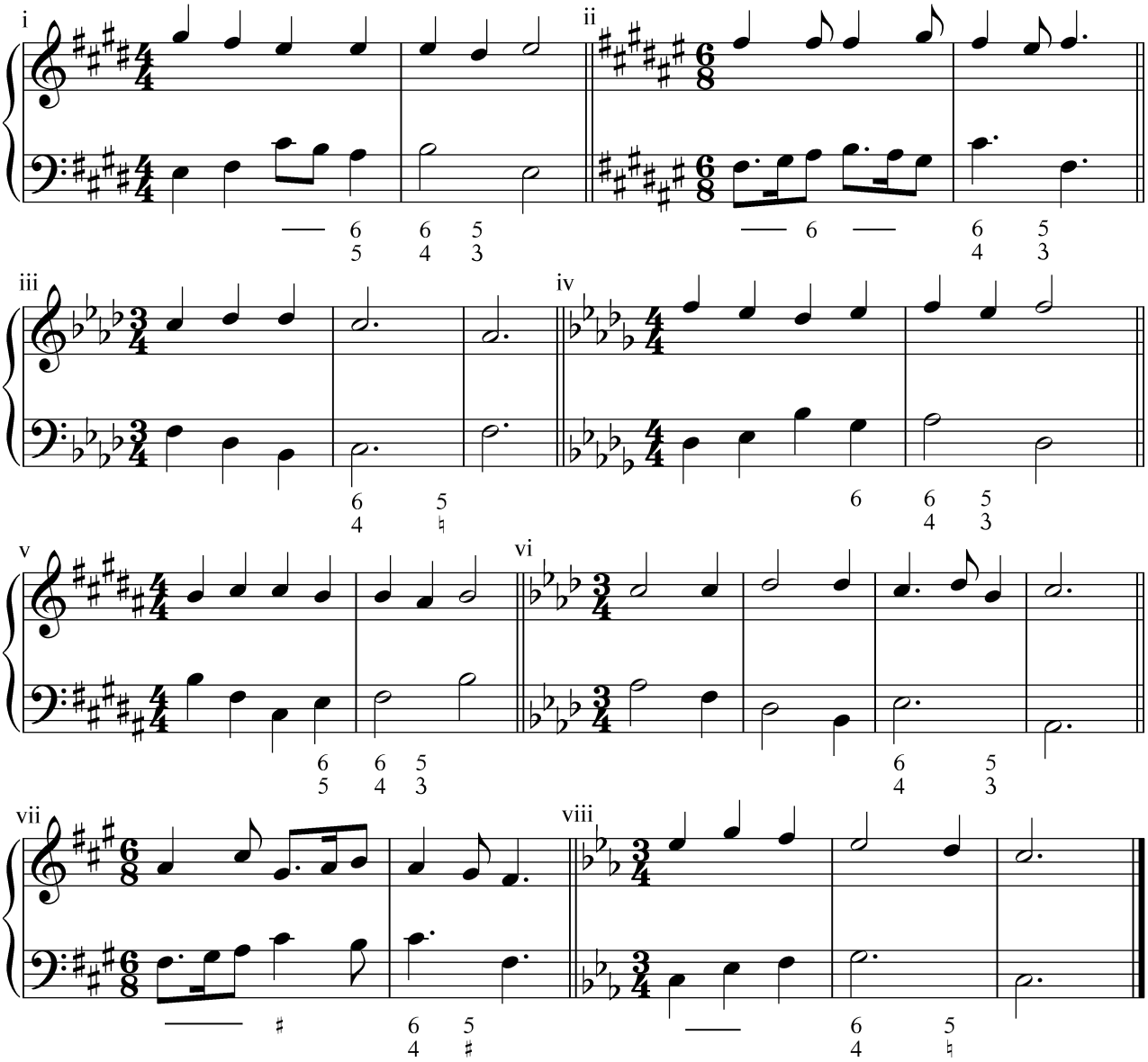
14. Play the following cadential phrases in four parts:





15.* Repeat ex.14 with a solo stop and pedals.

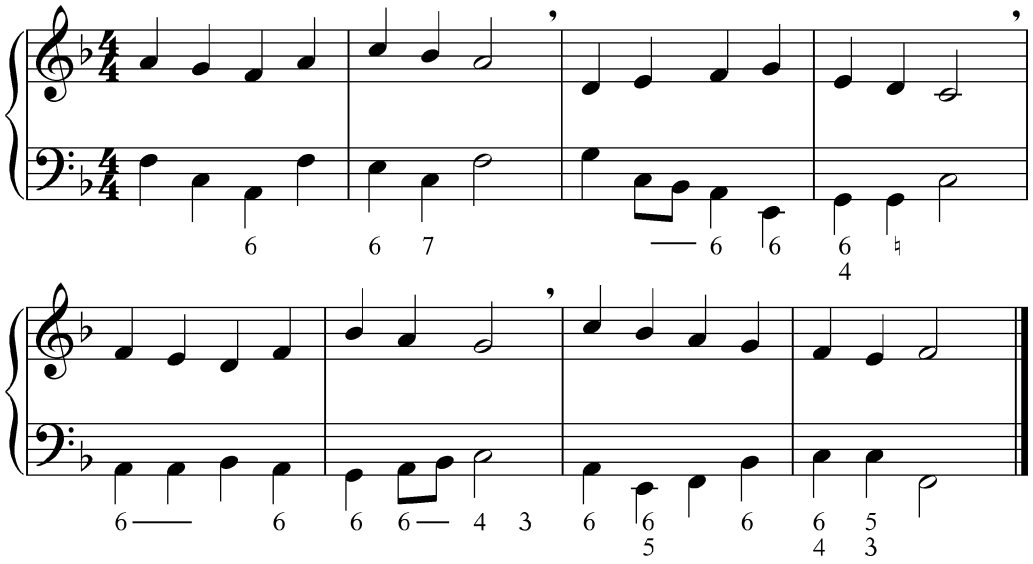
[16.] Play the following cadential phrases in four parts:



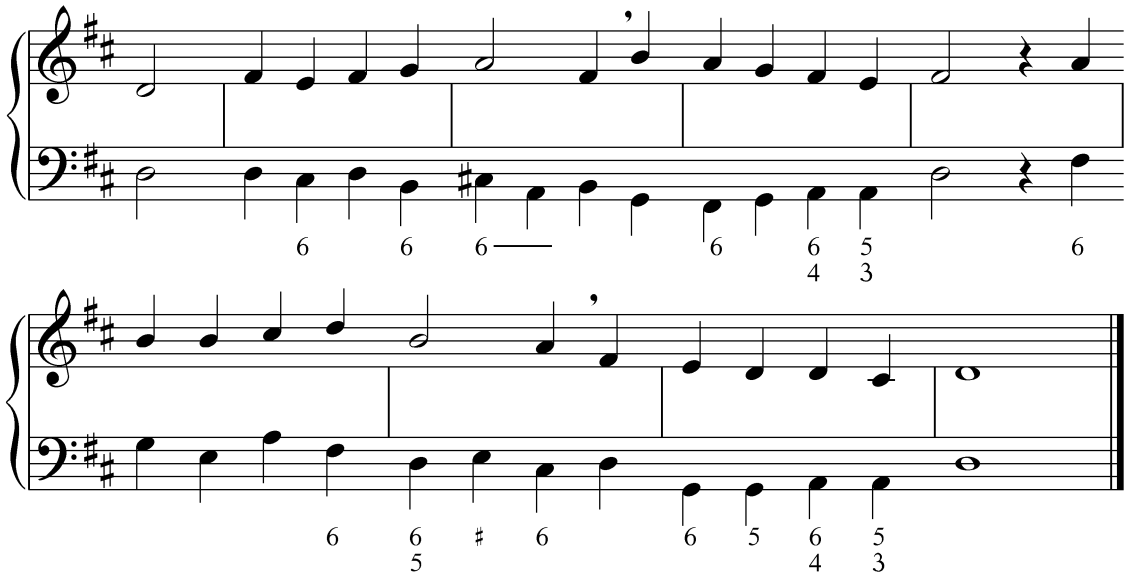
[17.*] Repeat ex.16 with a solo stop and pedals.

18. Play the following chorales and hymns in four parts.

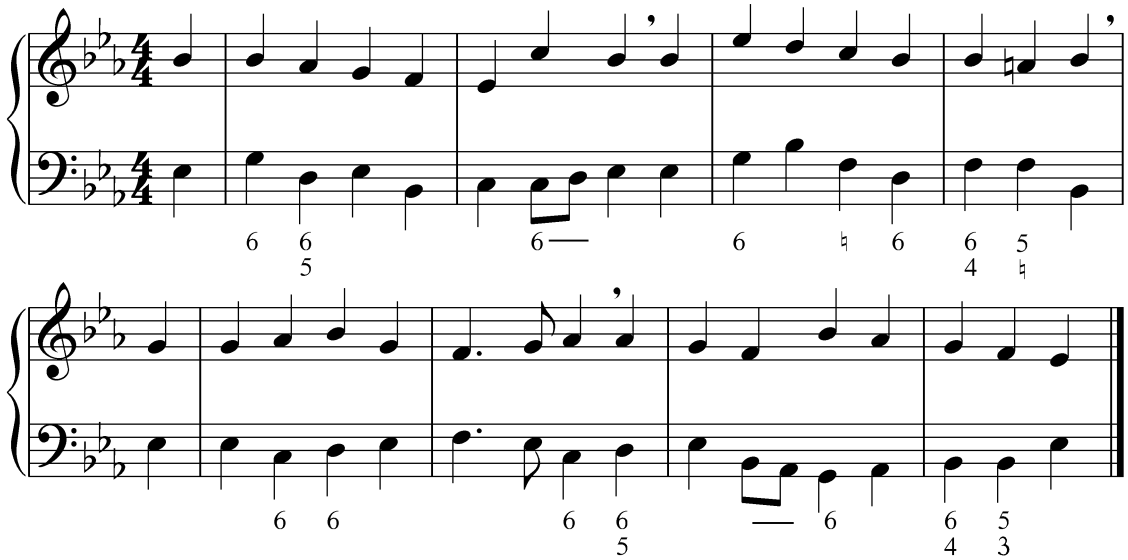
(a) *Ohne Rast und unverweilt*



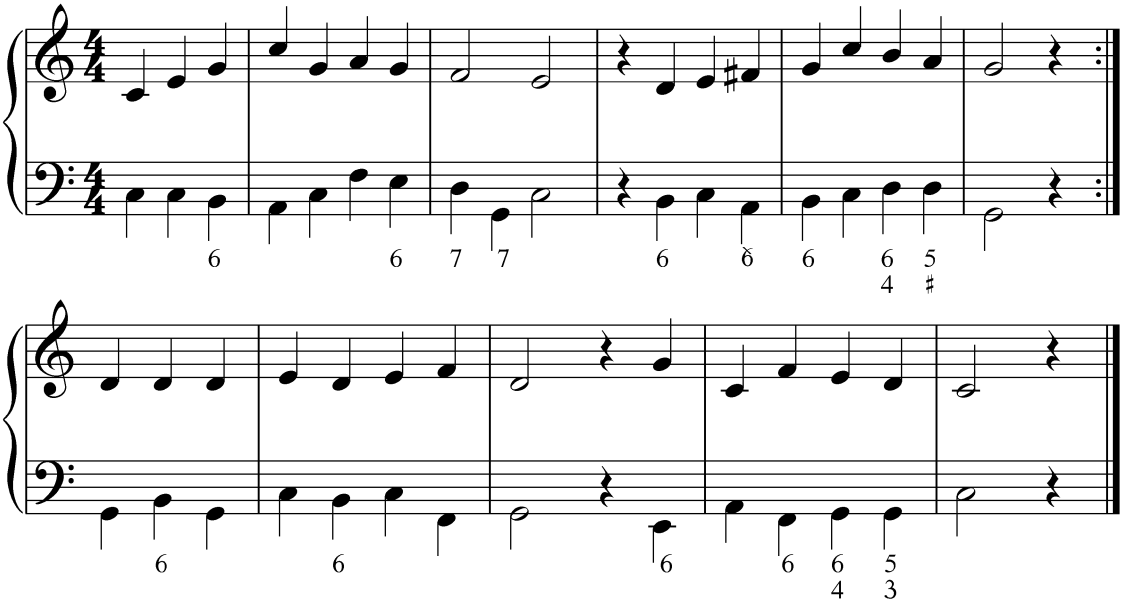
(b) *Christus der ist mein Leben*



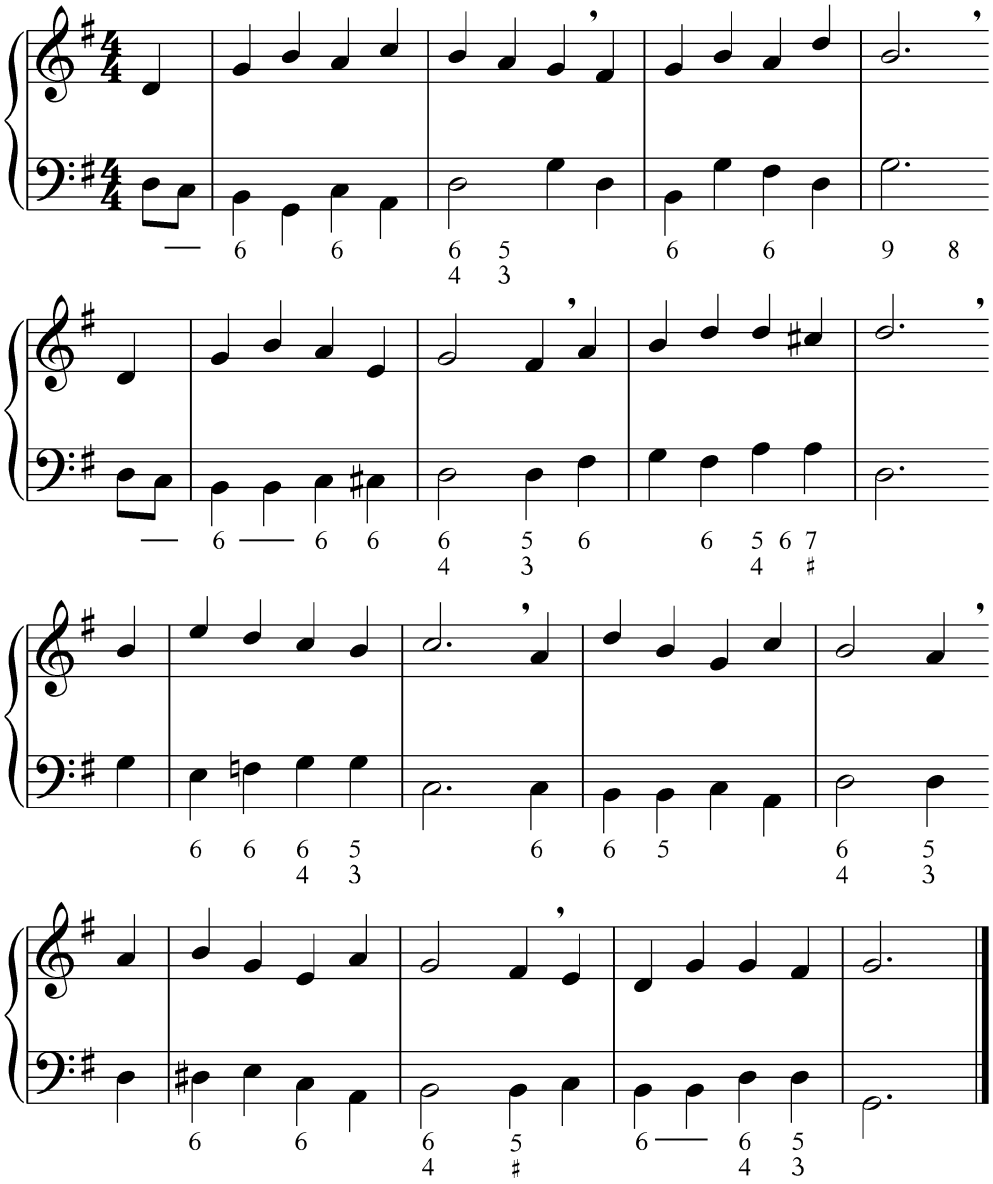
(c) *Melcombe*



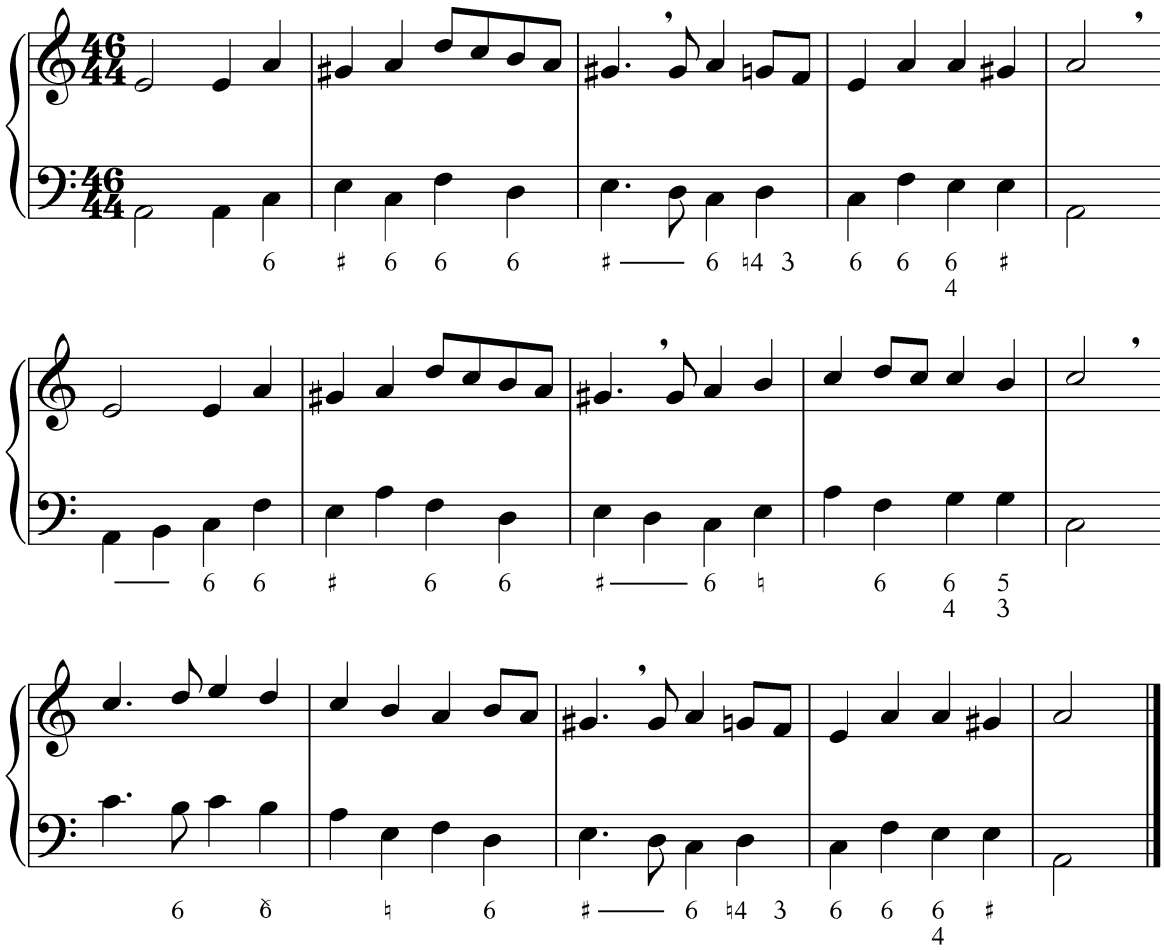
(d) *Ich will dich lieben, meine Stärke*; the setting is after Johann Balthasar König(?), 1738.



(e) *Kommt Kinder, lasst uns gehen*



(f) *Leicester*

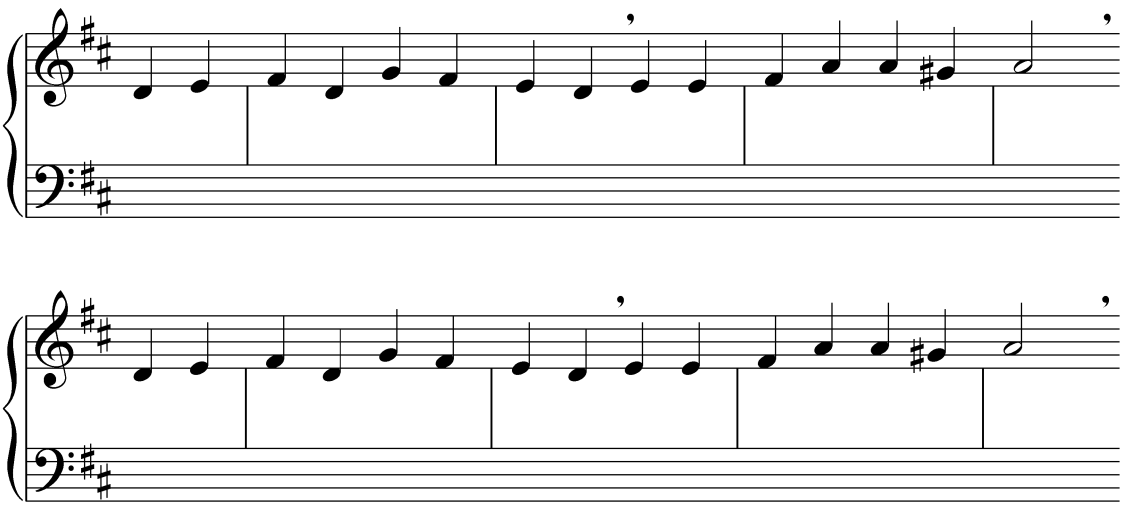


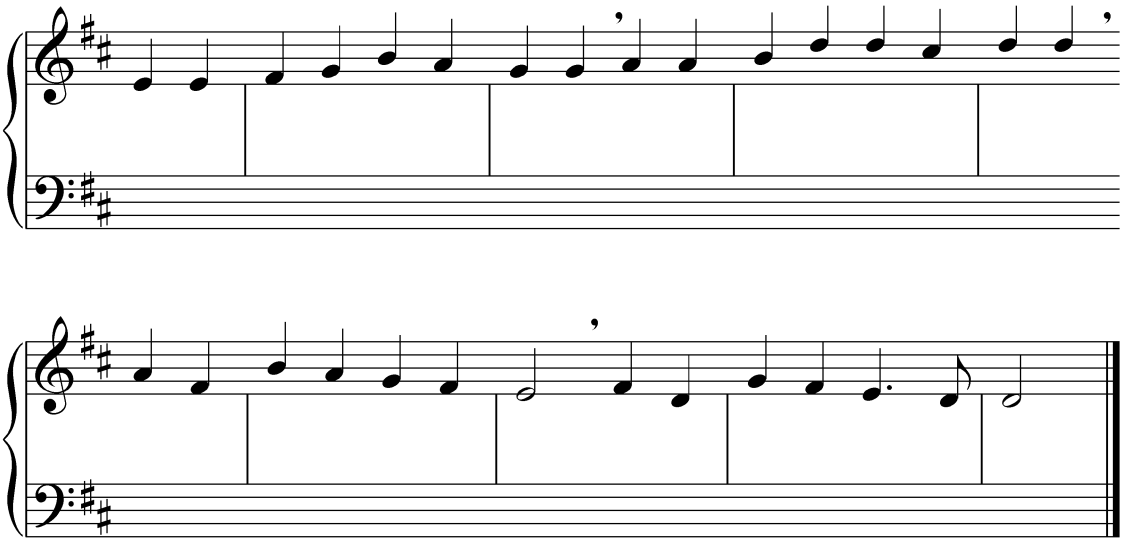
19.* Repeat the chorales and hymns with a solo stop and pedals.

20. Practise the following transpositions: *Ohne Rast* in G and A; *Christus der ist mein Leben* in C and E flat; *Melcombe* in D and F; *Ich will dich lieben* in D and B flat; *Kommt Kinder* in F and A; *Leicester* in G and B minor.

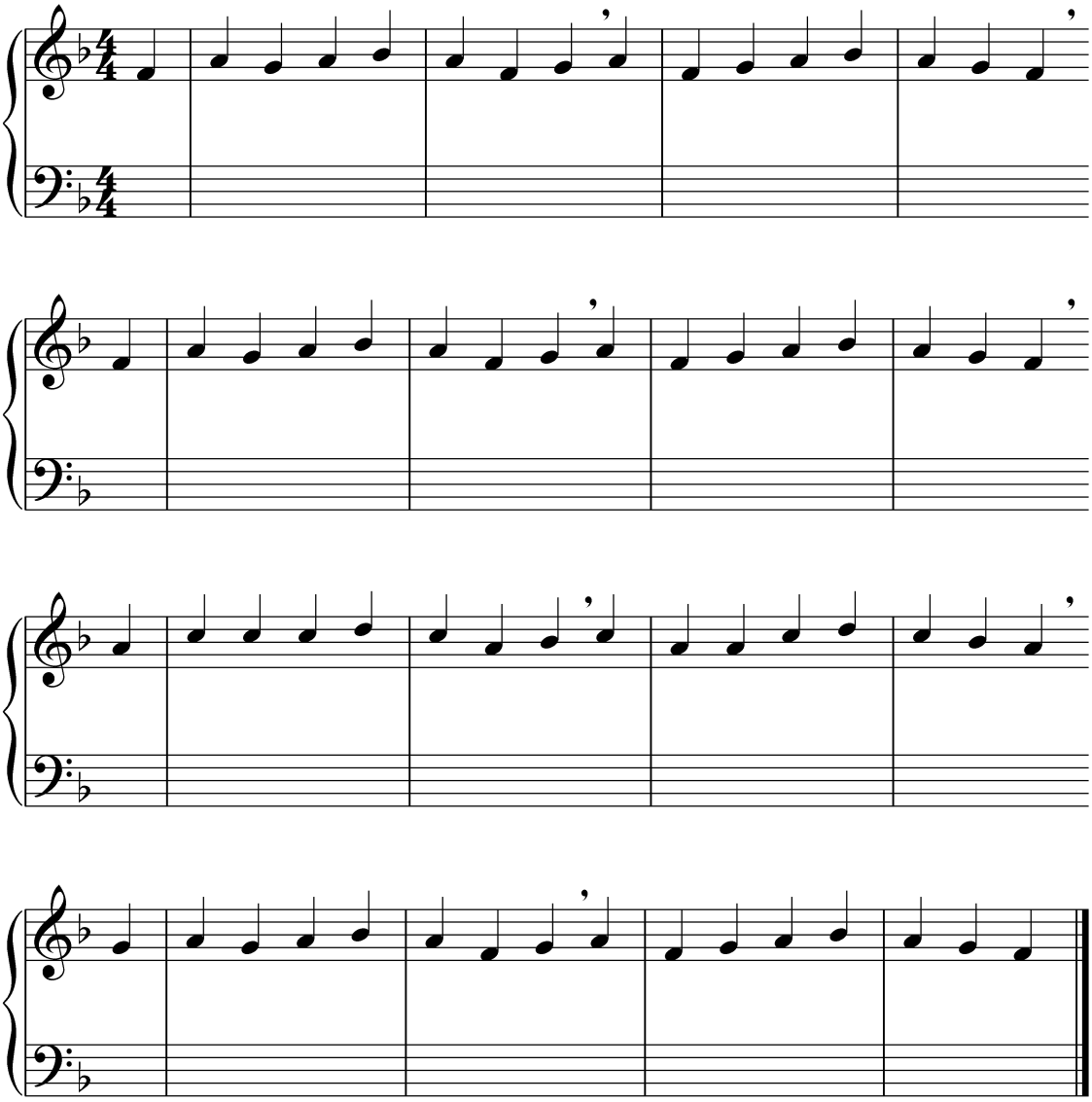
21. Write a bass to the following melodies; the 6-4-chord can be used at many cadences. Play the settings in four parts.

(a) *Jesu, meines Lebens Leben*

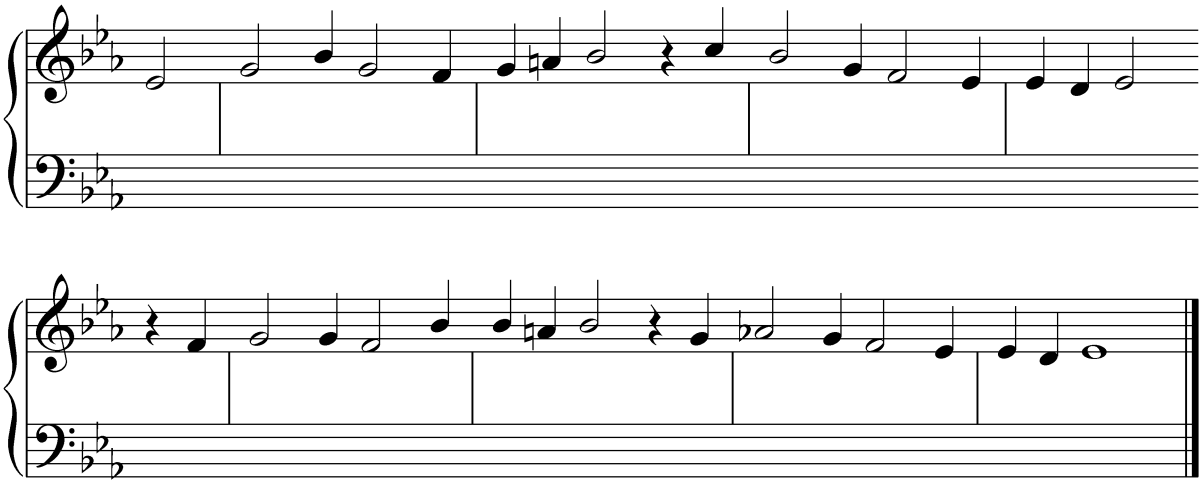




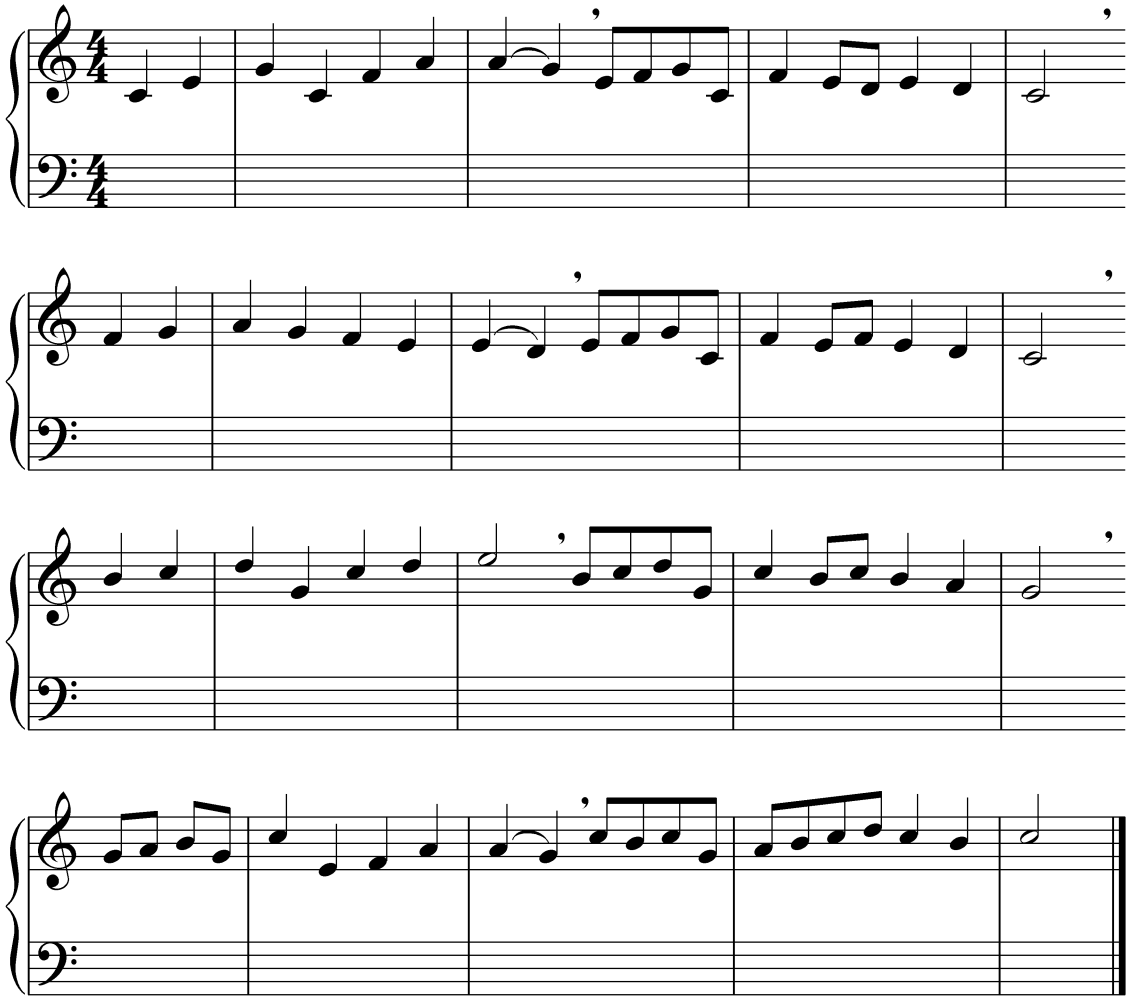
(b) *Die Wanderschaft in dieser Zeit*



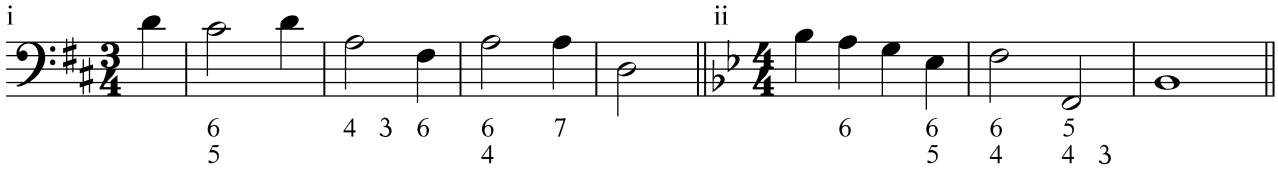
(c) *Herr Jesu Christ, dich zu uns wend*

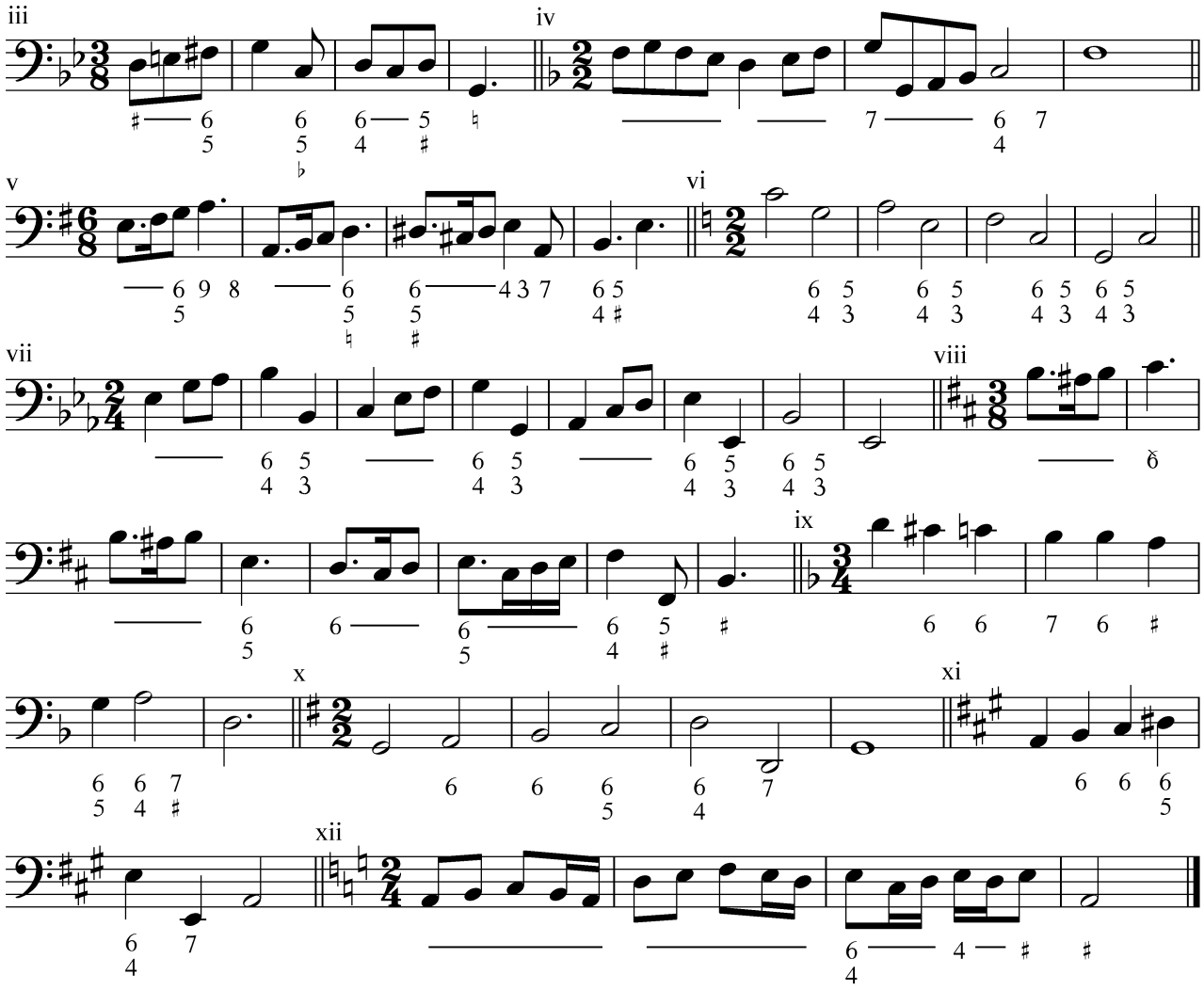


(d) *Easter hymn*

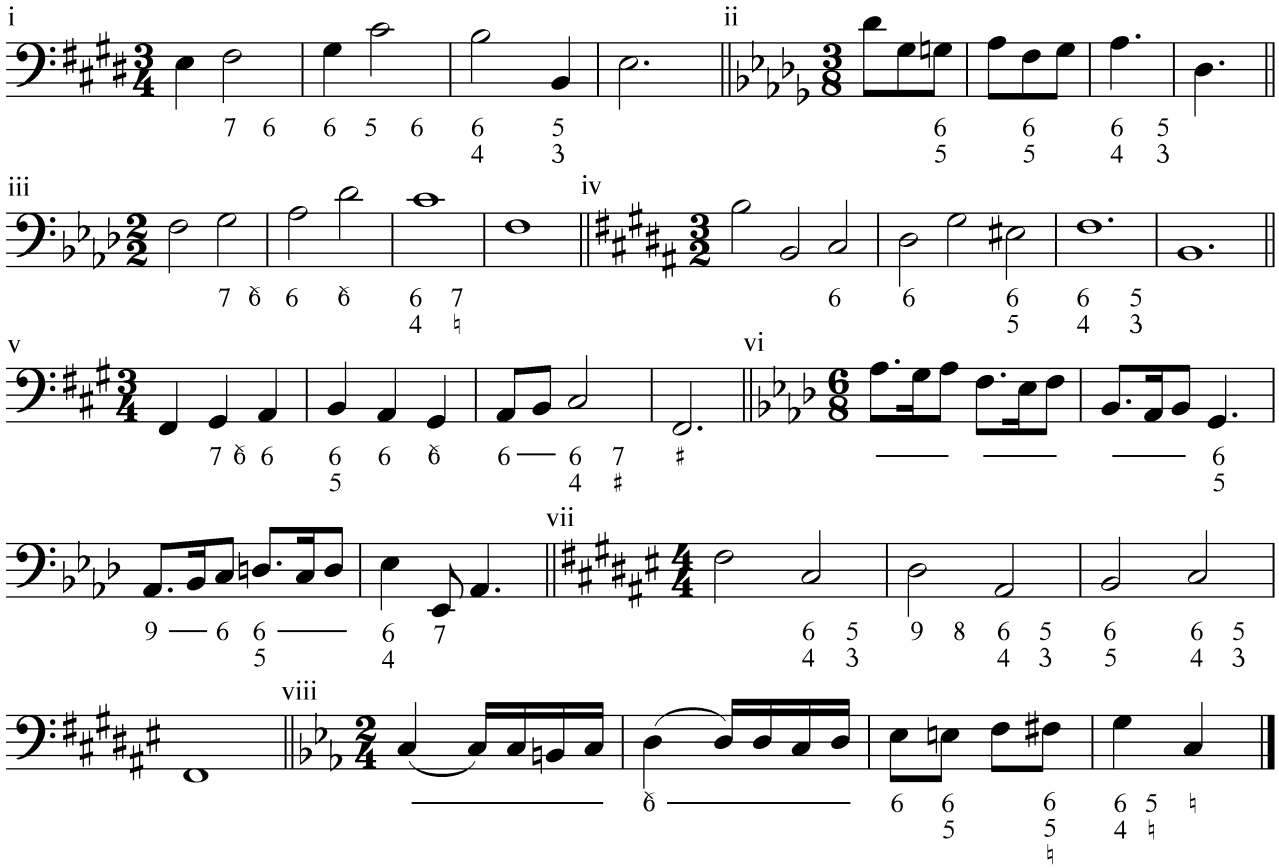


22. Practise the following figured basses in four parts in different positions:





[23.] Practise the following figured basses in four parts in different positions:

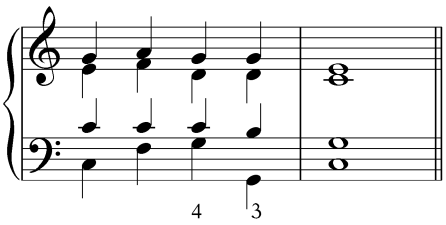


8

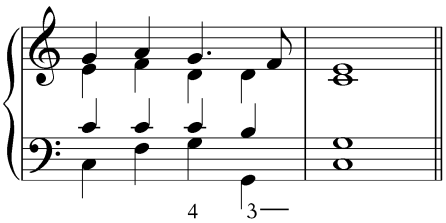
THE SIX-FOUR-TWO-CHORD

The 3rd inversion of the 7-chord
More about figured bass

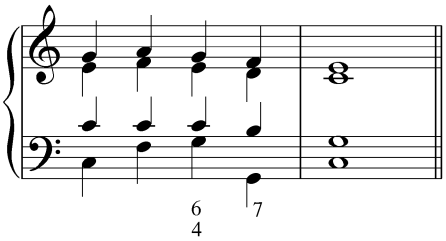
Let us return to the 7-chord. By reason of its considerable tension, the 7-chord is a powerful element in our vocabulary.
Whether we add the 7th to the triad on V, forming the dominant-7-chord, is often a question of style and taste. In the V-I cadence:



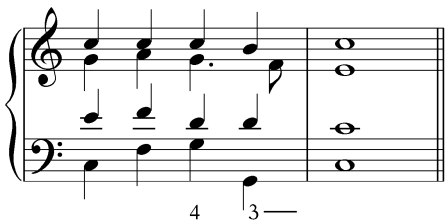
the 7th may contribute as a passing note to the linear movement:

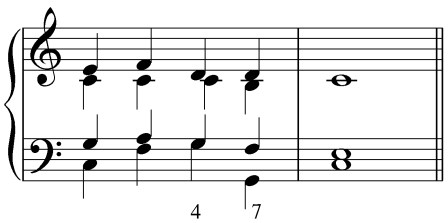


or its role may be more emphatic:



If a given melody does not allow this, the 7th may be used in the alto or tenor:

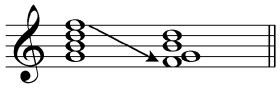




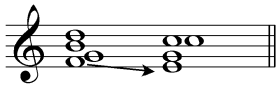
The 7th is a chord note of the dominant-7-chord. By definition, therefore, not all chord notes are consonant. Because the 7th is a dissonance, it nearly always moves stepwise downwards to the resolution - more often than not to the 3rd of the tonic triad.

The 3rd inversion of the 7-chord

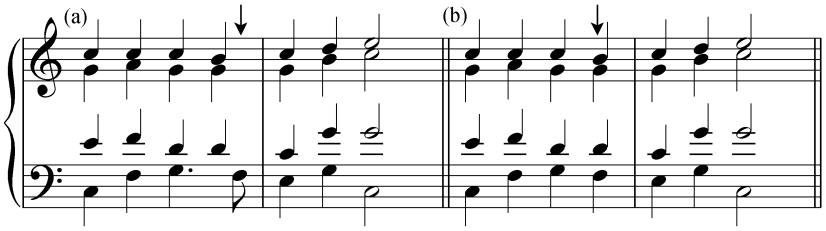
In the above examples the chord of the dominant 7th is in root position, with the dominant G in the bass and the 7th in the soprano, alto or tenor. But we may also turn the chord upside down, as it were, and play the 7th in the bass:



Since the 7th usually resolves to the 3rd of the tonic triad, this **3rd inversion** of the 7-chord is followed by the 1st inversion of the tonic triad:



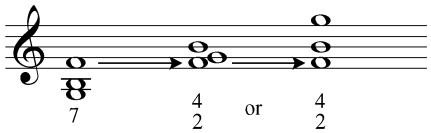
this progression does not constitute a cadence, and we could proceed as follows:



Here again, the 7th has a stronger effect in (b) than in (a). In (a) it is a passing note at the very weakest point of the bar; but in (b) we hear the 3rd inversion of the 7-chord, and although it falls on the 4th beat, its power is evident.

The 3rd inversion of the 7-chord as a triad

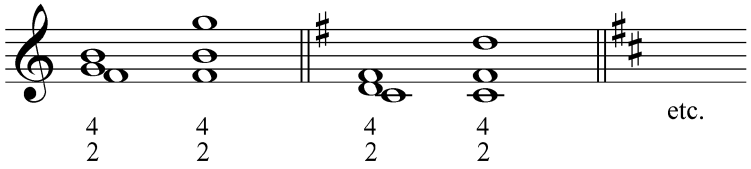
As we have seen, the 5th is often omitted from the 7-chord, in both root position and inversions. The 3rd inversion then becomes:



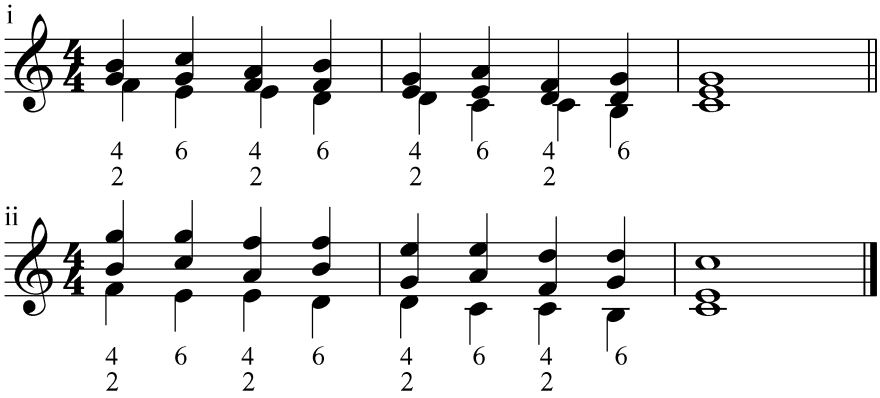
In the key of C major, the root of the dominant-7-chord is G. In the 3rd inversion the root moves to one of the two upper parts and the bass note is the seventh F.

EXERCISES:

1. Practise in all major keys the 3rd inversion of the three-part dominant-7-chord in the following positions:

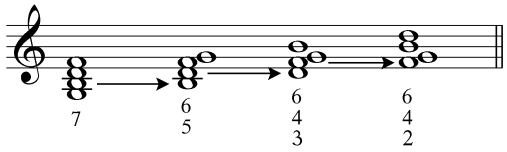


2. Play the following sequences in all major keys:



The 3rd inversion of the 7-chord as a *Vierklang*

The 7-chord as a *Vierklang*, i.e. four different notes including the 5th, has three inversions. (The 2nd inversion will be discussed in ch.10.) In the key of C major, the dominant-7-chord therefore appears in the following forms:



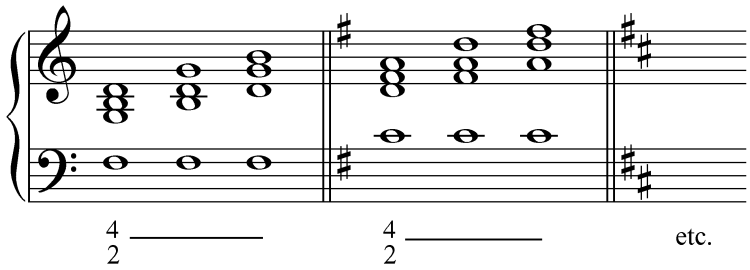
The root of the 7-chord and the three inversions is the dominant G. In the inversions, G is in one of the upper parts, depending on their distribution. We note the following:
- the bass of the 1st inversion is the 3rd of the 7-chord;
- the bass of the 2nd inversion is the 5th of the 7-chord;
- the bass of the 3rd inversion is the 7th of the 7-chord.
- the figures are added up from the bass.

Figured bass

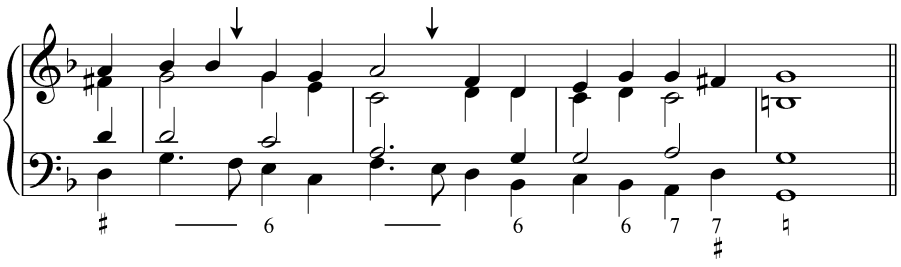
The 3rd inversion of the 7-chord is known as the 6-4-2-chord, and is abbreviated to 2-chord. The figured bass is also abbreviated from $\frac{6}{4}{}_{2}$ to $\frac{4}{2}$ or $_{2}$. This means that the figure $_{2}$ implies at least $\frac{4}{2}$ and often $\frac{6}{4}{}_{2}$, even though the 4th and 6th may not be given in the figured bass.

EXERCISES:

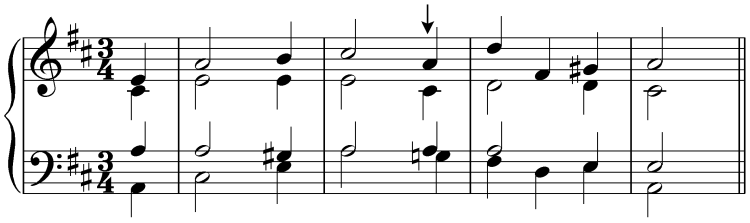
3. Play the 3rd inversion of the four-part dominant-7-chord in three positions. Practise in all keys.



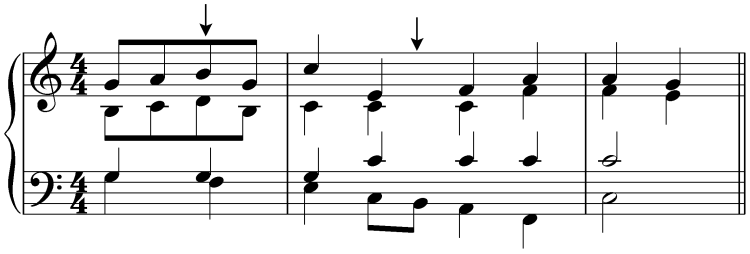
The 3rd inversion of the 7-chord is occasionally found in 17th-century chorale harmonisations, though only in the 'incidental' manner described above, where the 7th is a passing note; the observant reader may have discovered it in ch.3, in an example from Samuel Scheidt's *Von Gott will ich nicht lassen* (1650):



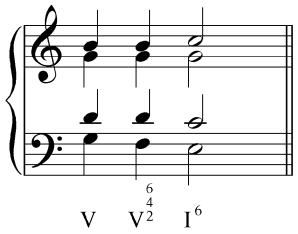
In the 18th century, the 3rd inversion, after the 1st, was by far the most common inversion of the 7-chord. Listen to the powerful effect of the 3rd inversion in Edward Millers *Caton*:



and compare the 3rd inversion with the 7th as a passing note (from the tonic triad) in *Easter Hymn* (1708):

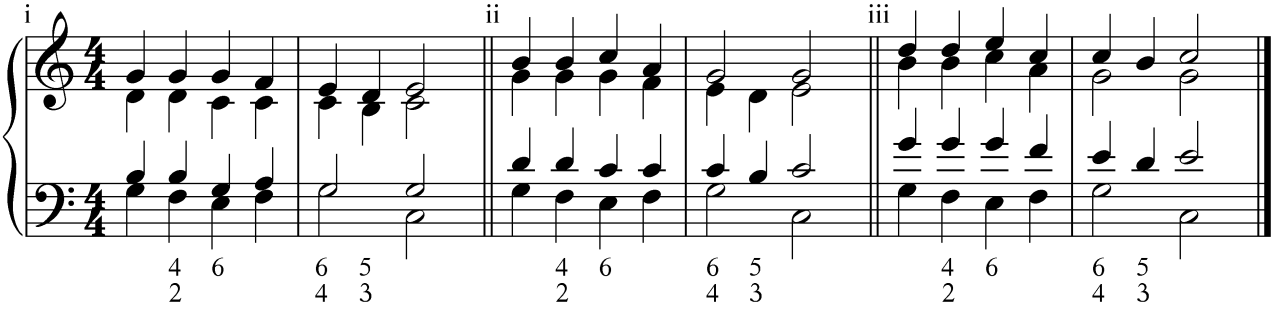


In these and other hymns and chorales, the 3rd inversion of the 7-chord lies almost invariably between the dominant triad in root position and the tonic triad in the 1st inversion:

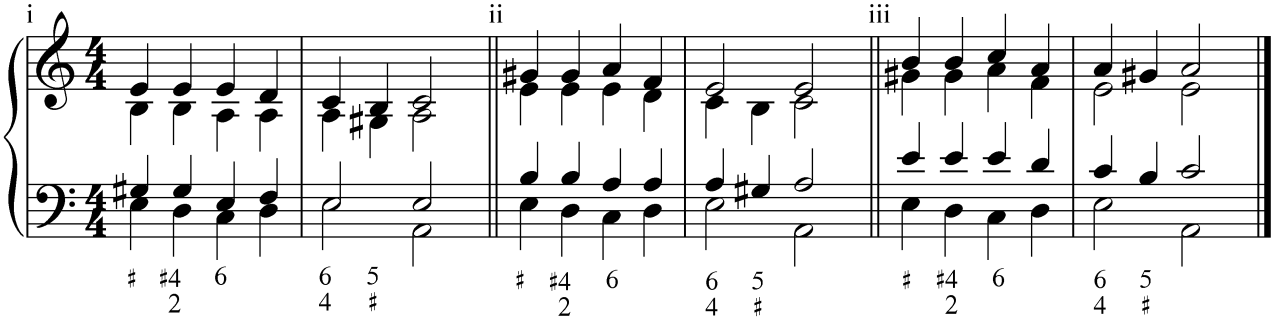


EXERCISES:

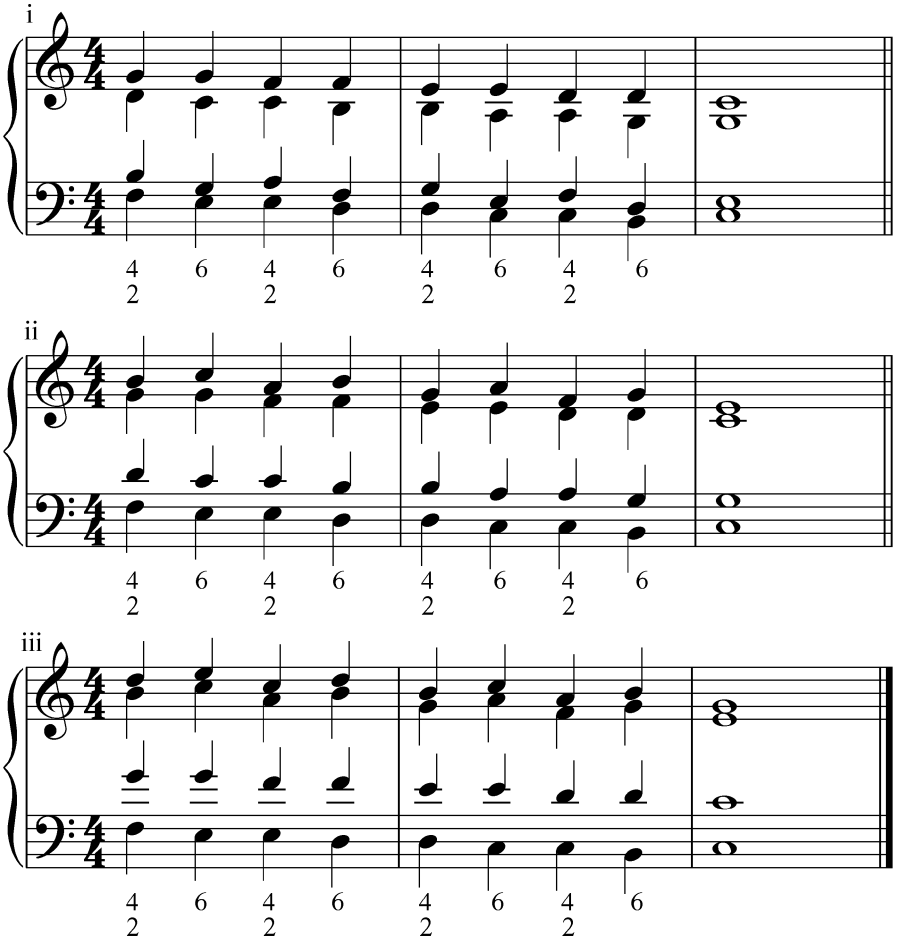
4. Practise the following cadential phrases in all major keys:



5. Practise the following cadential phrases in all minor keys:

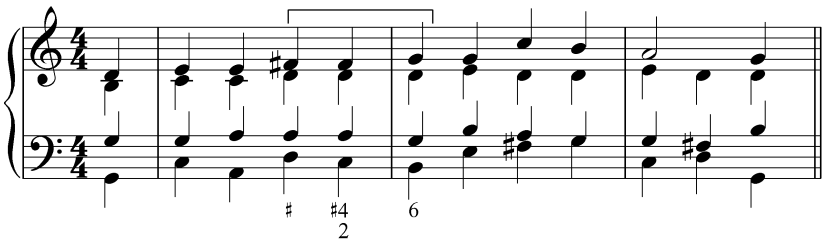


6. Play the following sequences in all major keys. They begin on the dominant-7-chord; thereafter the 2-chord occurs on other degrees of the scale as well.

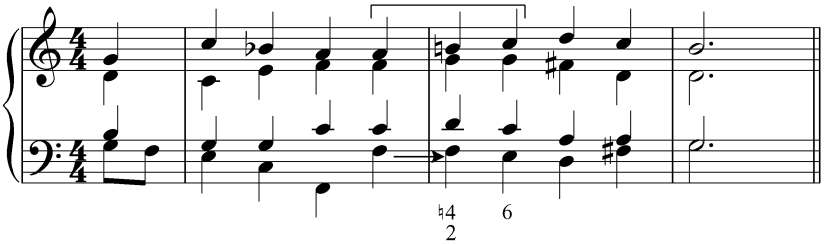


7.* Repeat ex.4-6 with a solo stop and pedals.

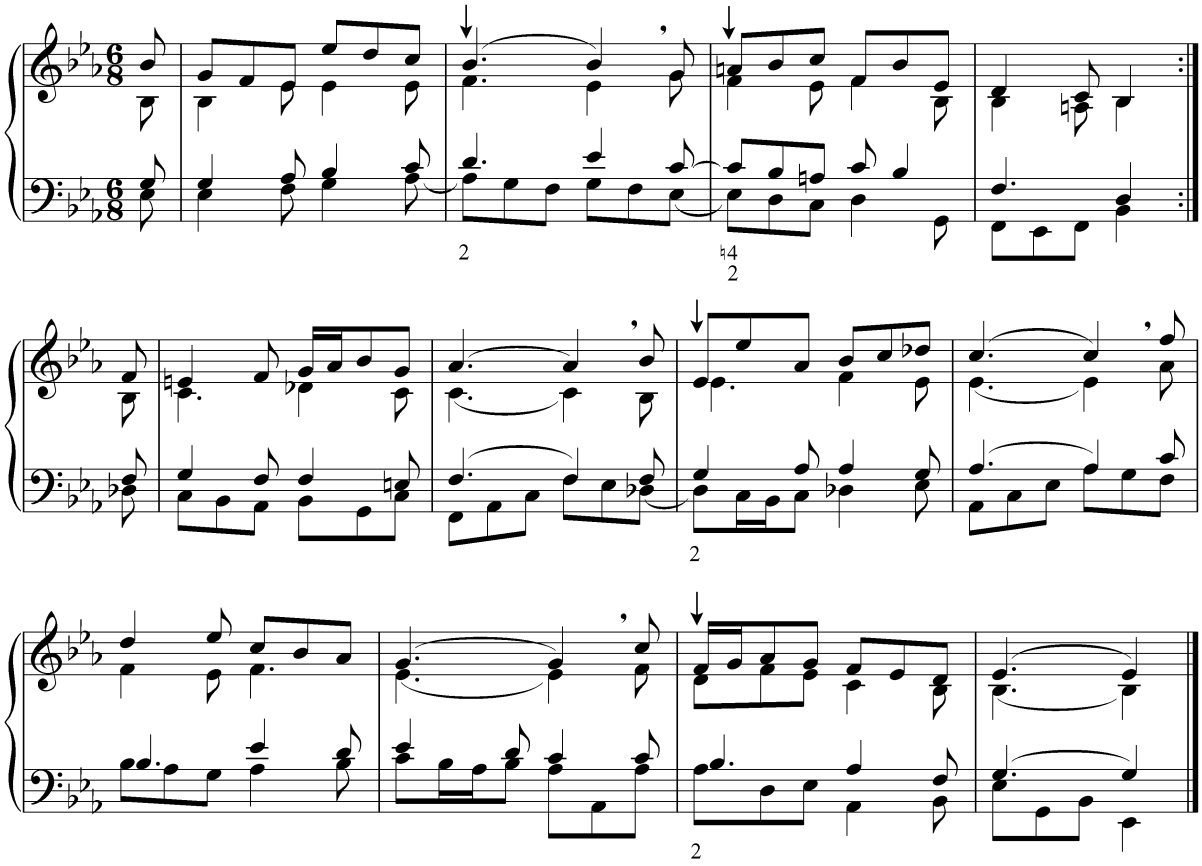
In the above sequences, the 2-chord falls on the strong beat. In Christian Gregor's *Er wird es tun, der fromme, treue Gott* (1784) the 2-chord occurs initially on the fourth beat:



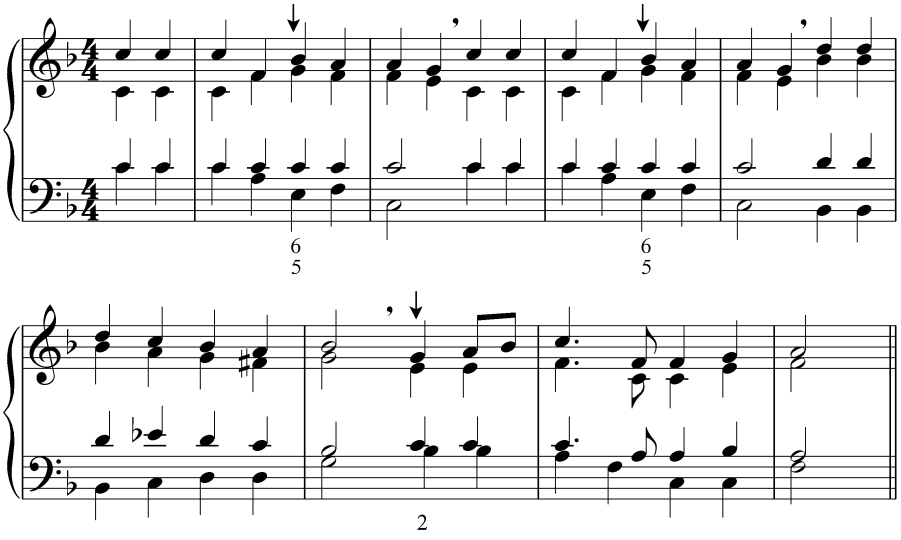
In the modulation to G major, the bass passes from the dominant triad to the 1st inversion of the tonic triad (compare ex.4.ii). In between, we hear the 3rd inversion of the dominant-7-chord. Subsequently Gregor employs the 2-chord on the strong beat:



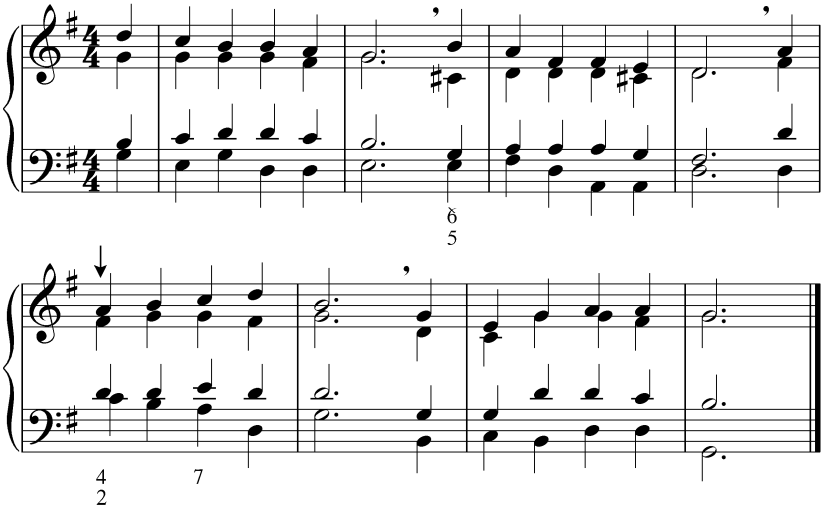
The bass note F on the fourth beat forms the preparation for the accentuated dissonance on the dominant-7-chord, as the key of C major is touched upon. The dissonance resolves downwards to the 6-chord of C, after which the phrase modulates to the key of G major.
This powerful use of the 7-chord on the strong beat was not new in Gregor's day. It is an important element in the style of nobody less than Johann Sebastian Bach, and it is a characteristically rich harmony of the high Baroque. In Bach's setting of *Kommt, Seelen, dieser Tag musz heilig sein besungen* the 2-chord on the strong beat becomes almost a structural characteristic:



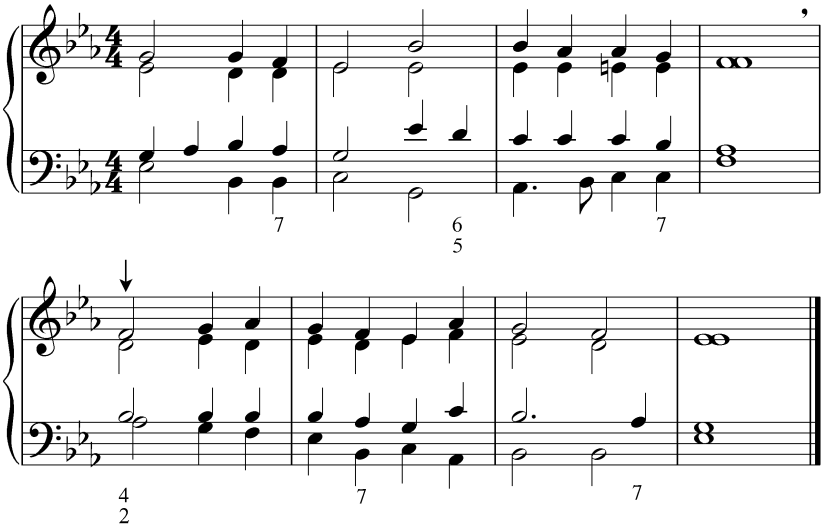
In an often simplified form, we find the same progressions in 19th-century hymns. Thus Bach's great advocate Mendelssohn, in the well-known hymn adapted from one of his compositions under the title *Mendelssohn*:



and Leighton George Hayne in *St Cecilia*:

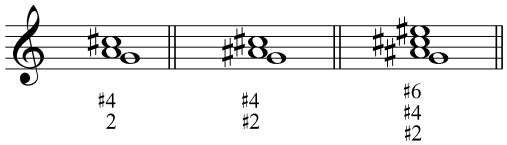


and, last but not least, William Henry Monk in *Eventide*:

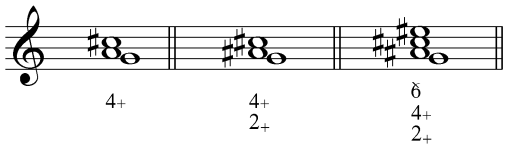


Figured bass

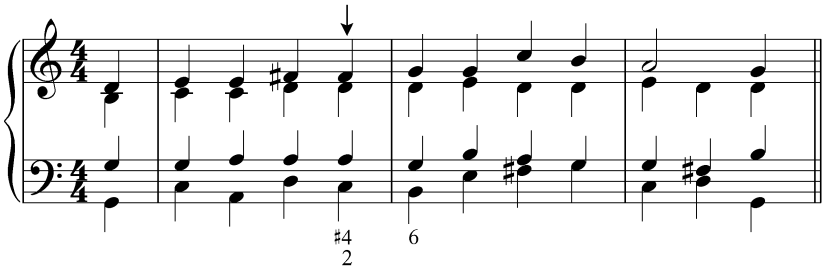
If the 2nd, 4th or 6th are sharpened, a sharp may be written before the figure:



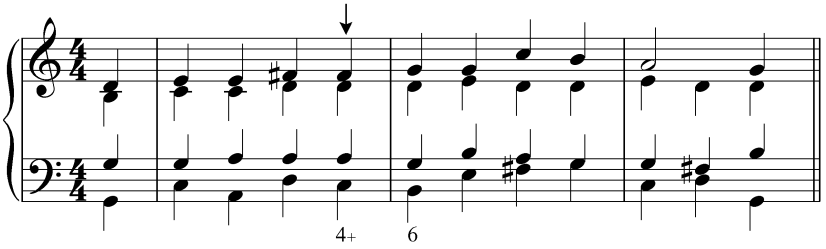
In the ‘shorthand’ system of the Baroque era these sharps were also indicated as follows:



The sharpened 4th is often given alone, without stating the implied 2nd (and often 6th). In the phrase quoted above from Christian Gregor’s *Er wird es tun, der fromme, treue Gott*:



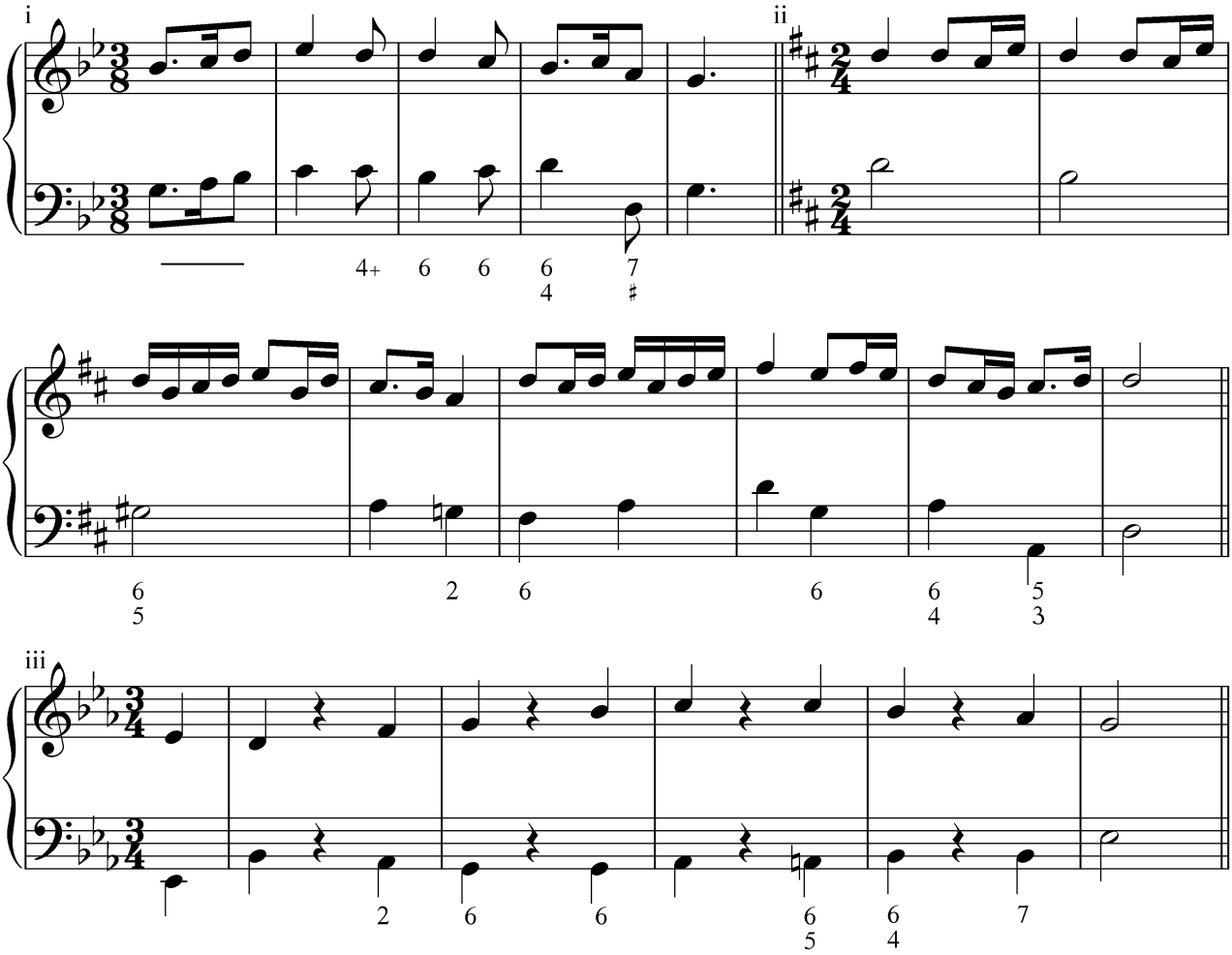
the 2-chord with sharpened 4th can be indicated as follows:

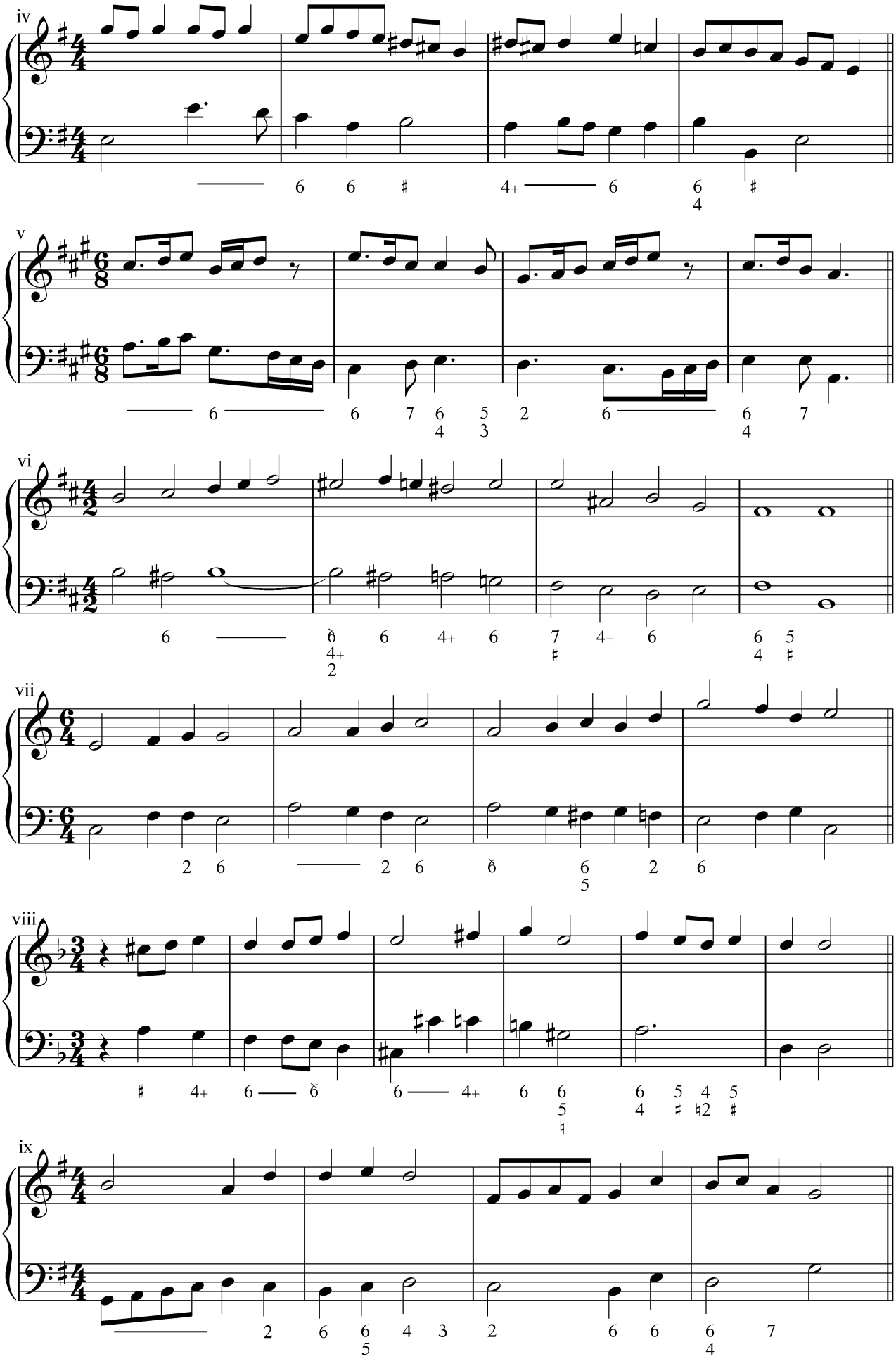


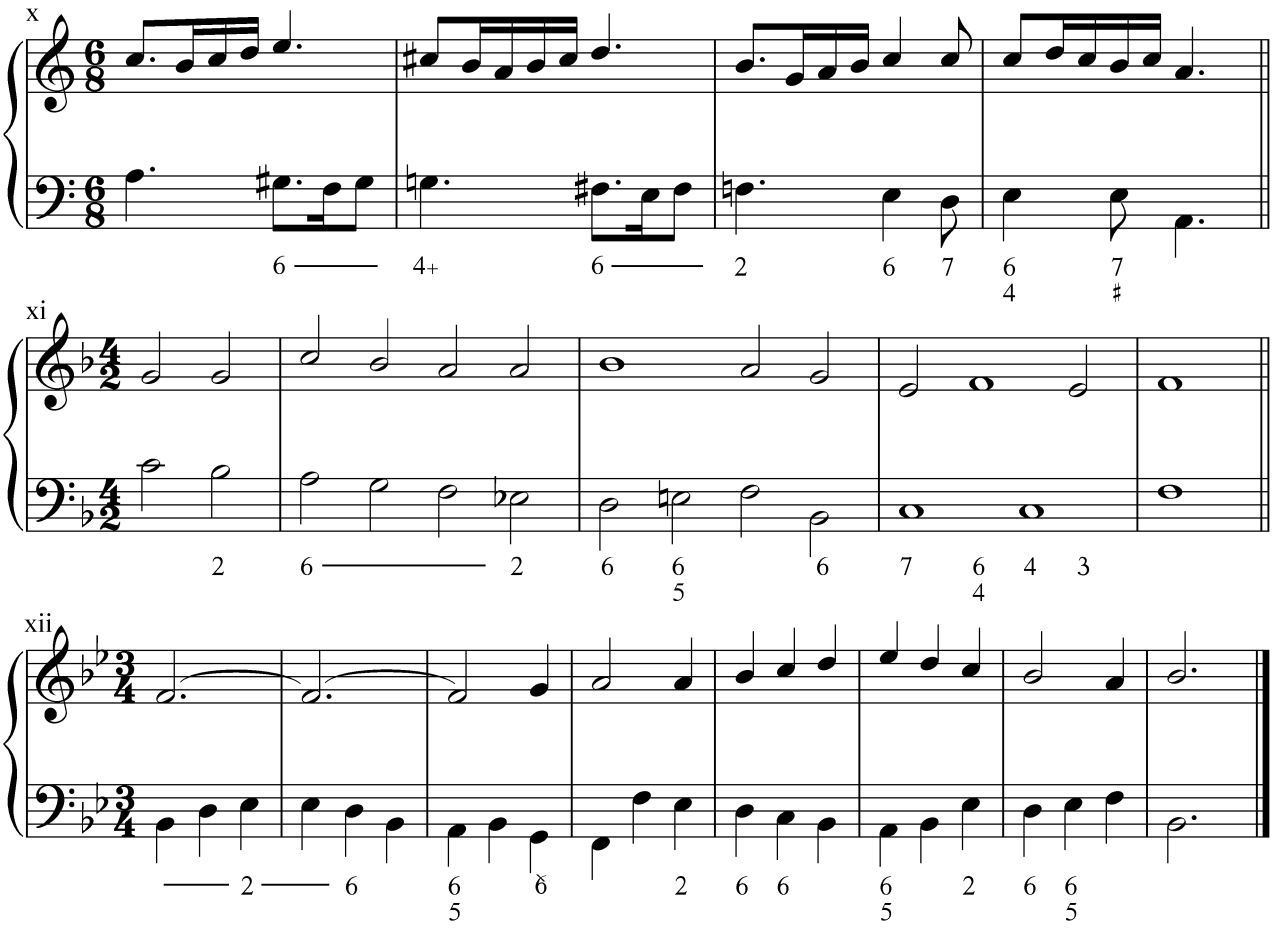
(N.B.: in the 17th century in particular, the 6-4-chord was often indicated only by the number 4; the context usually makes the required chord clear.)
In major keys, these sharpened intervals are indicative of a change of tonality: at the very least a brief allusion to a different key, but often a fully fledged modulation - more on this in the next chapter. (In minor keys, the sharpened 4th is rather common as it usually refers to the leading note, which is not 'covered' by the key signature.)

EXERCISES:

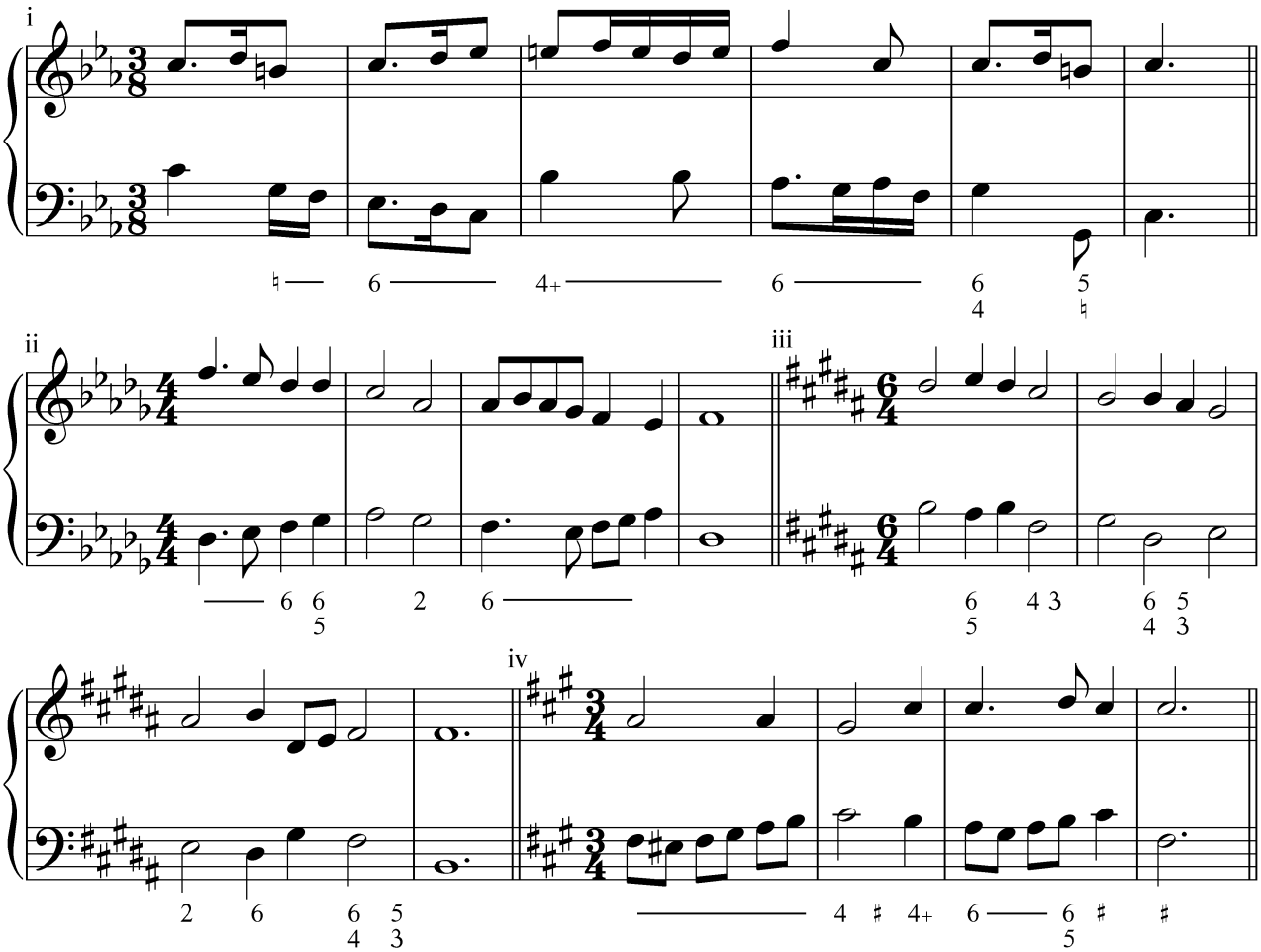
8. Play the following exercises in four parts:

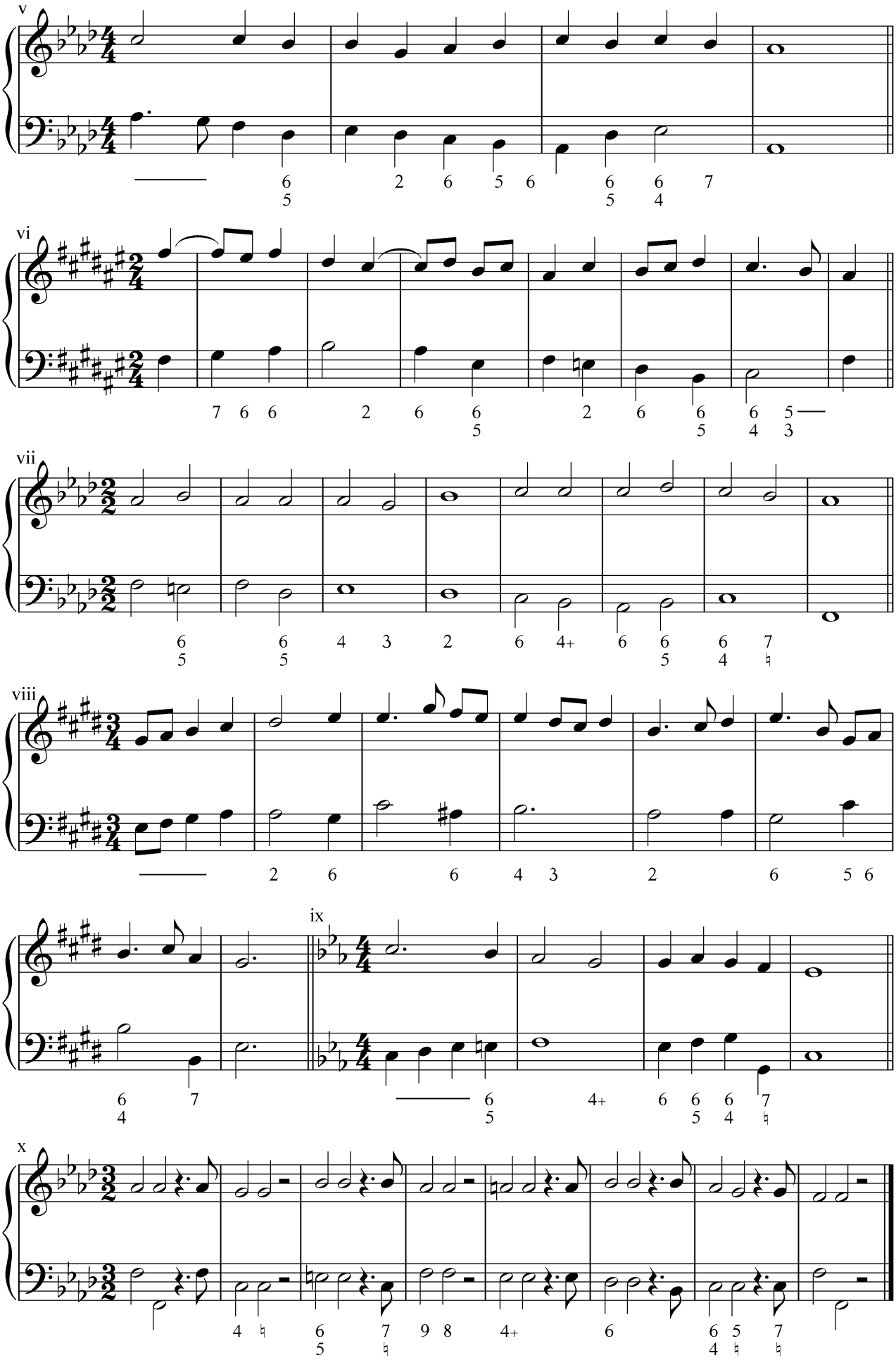



iv
6 6 ♯ 4+ 6 6 ♯
4
v
6 6 7 6 5 2 6 6 7
4 3 4
vi
6 6 4+ 6 4+ 6 7 4+ 6 6 5
2 ♯ 4 ♯
vii
2 6 2 6 6 2 6
5
viii
♯ 4+ 6 6 6 4+ 6 6 6 5 4 5
5 4 ♯ ♮2 ♯
♮
ix
2 6 6 4 3 2 6 6 6 7
5 4



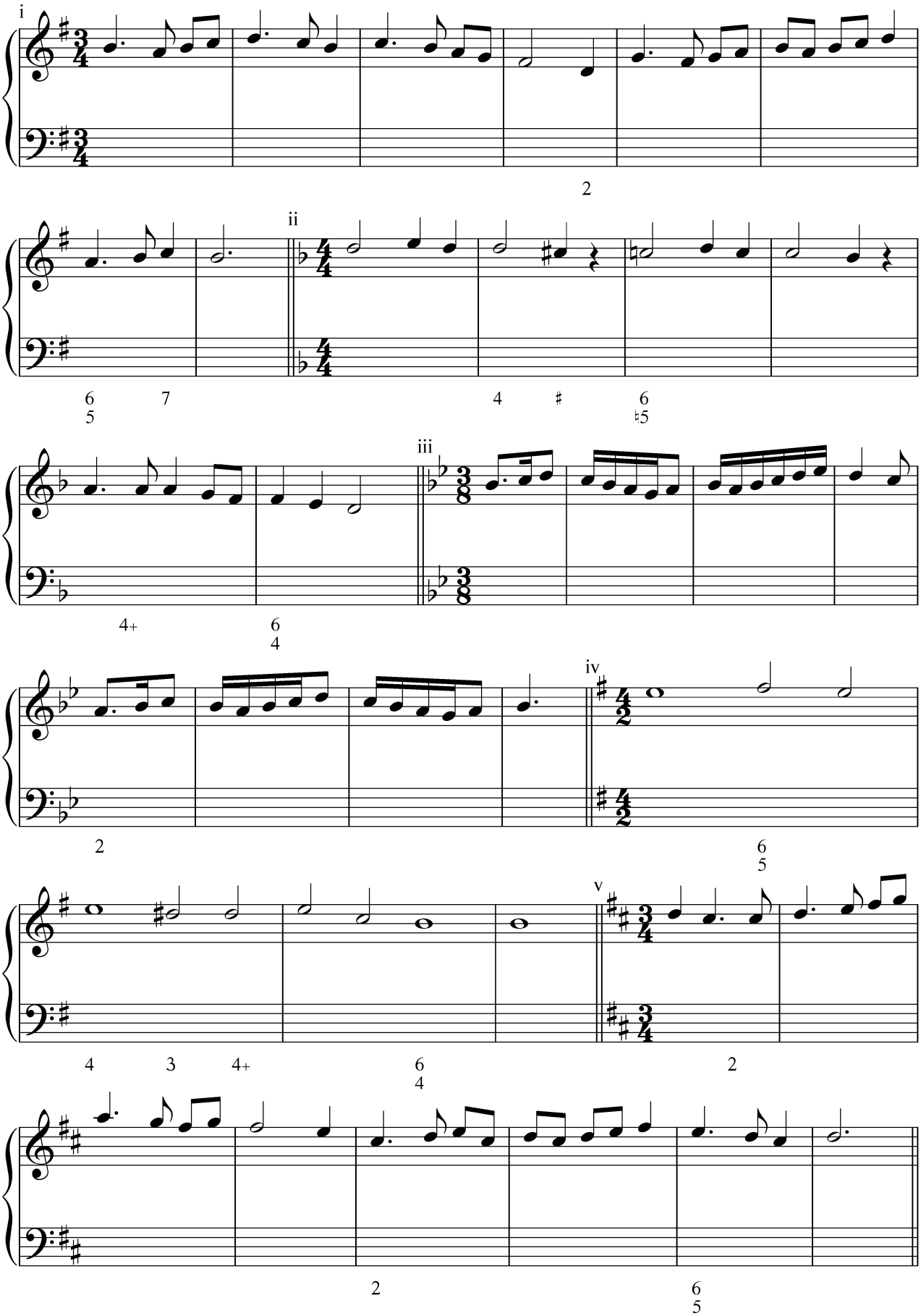
[9]. Play the following exercises in four parts:

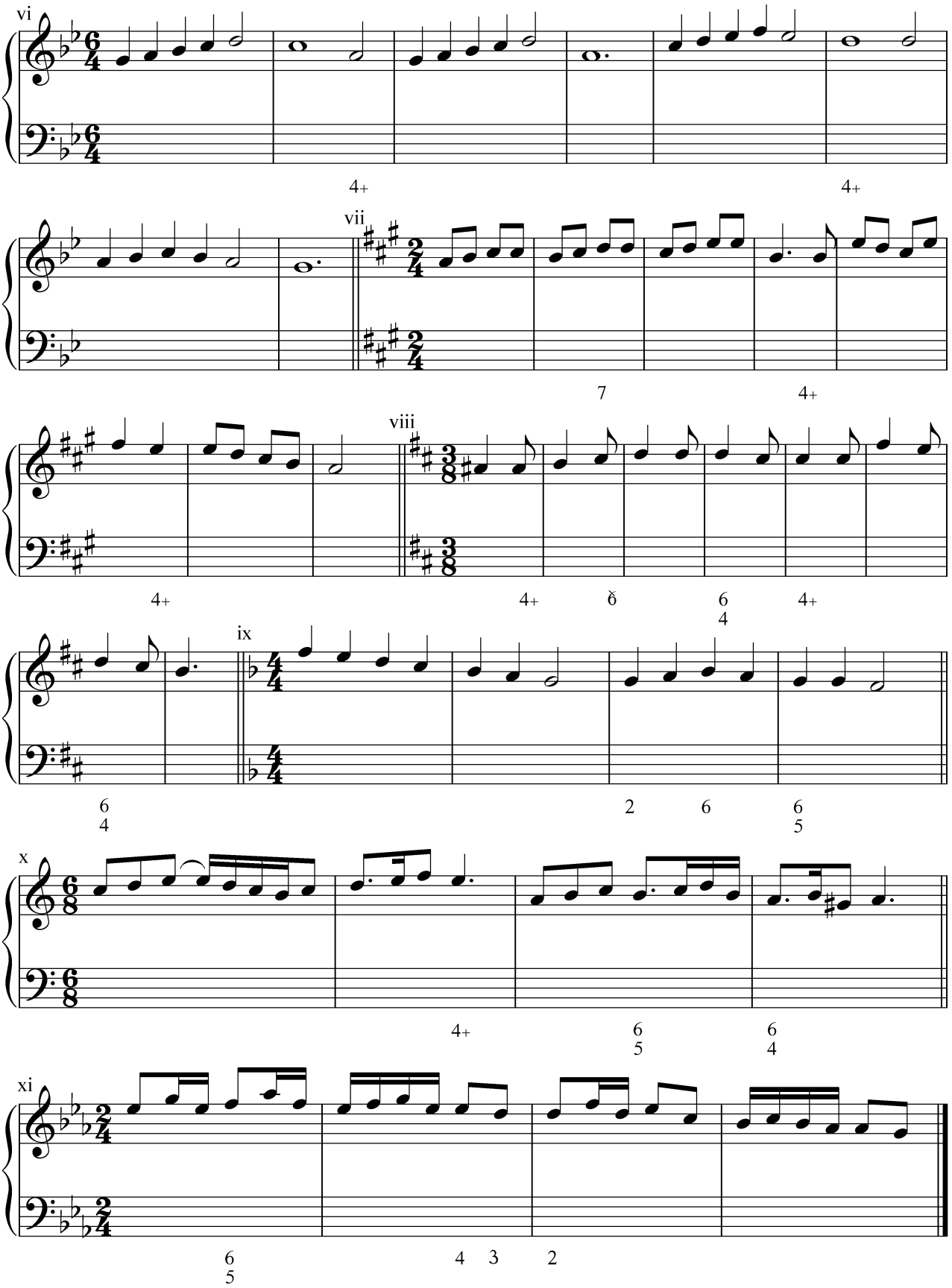



v
vi
vii
viii
ix
x

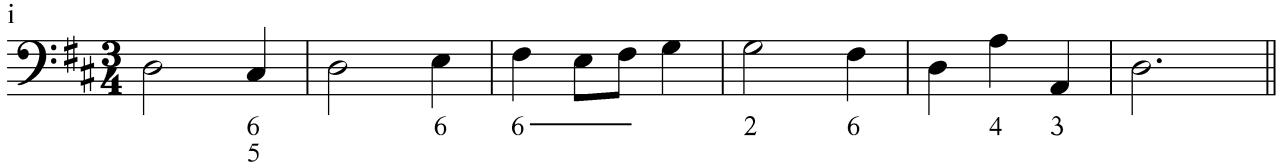
10.* Repeat ex.8 [and 9] with a solo stop and pedals.

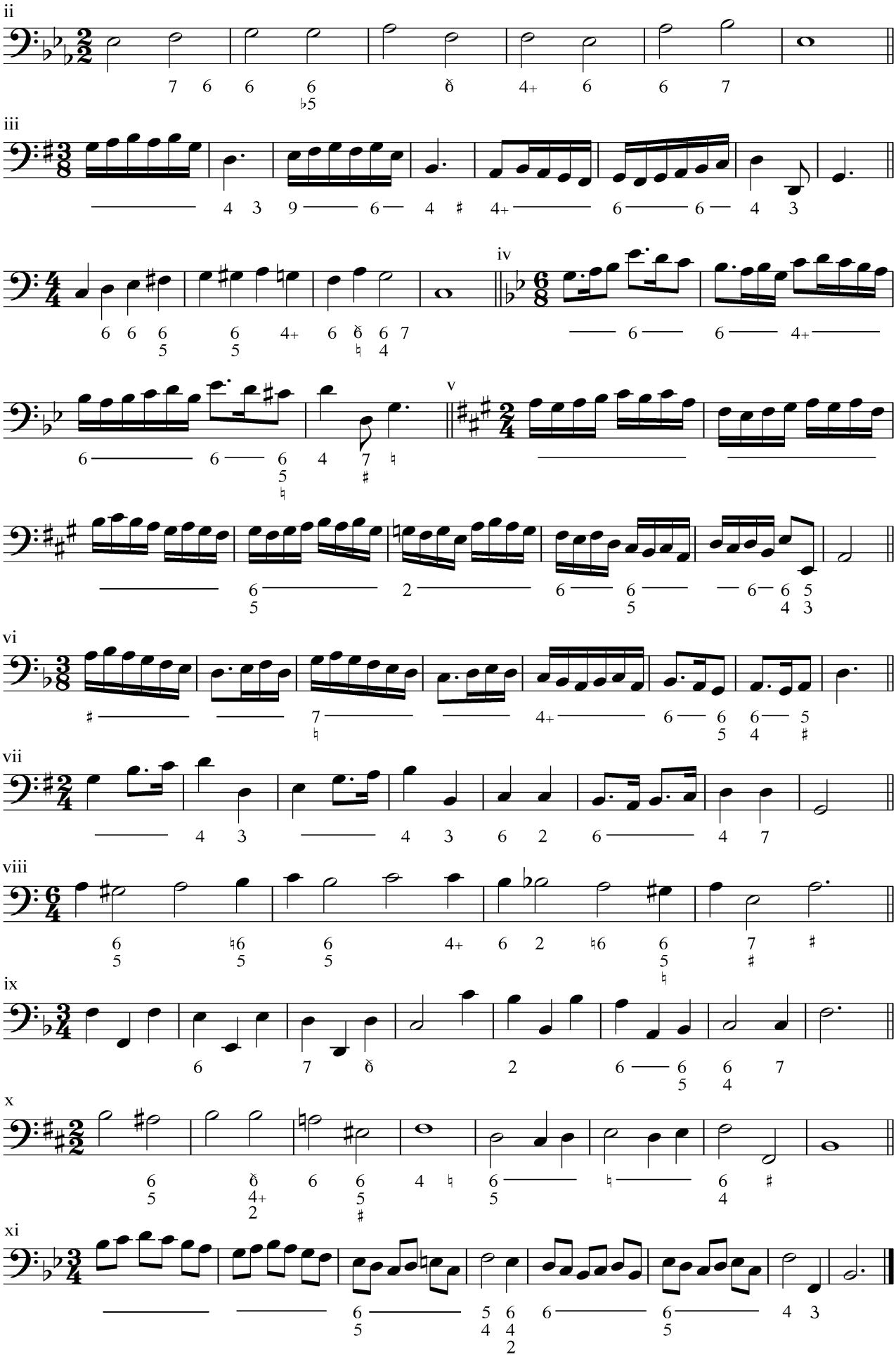
11. Write a bass to the following melodies and play in four parts. Some of the chords are already indicated by figures.





12. Play the following figured basses in four parts in different positions:




ii
iii
iv
v
vi
vii
viii
ix
x
xi

9

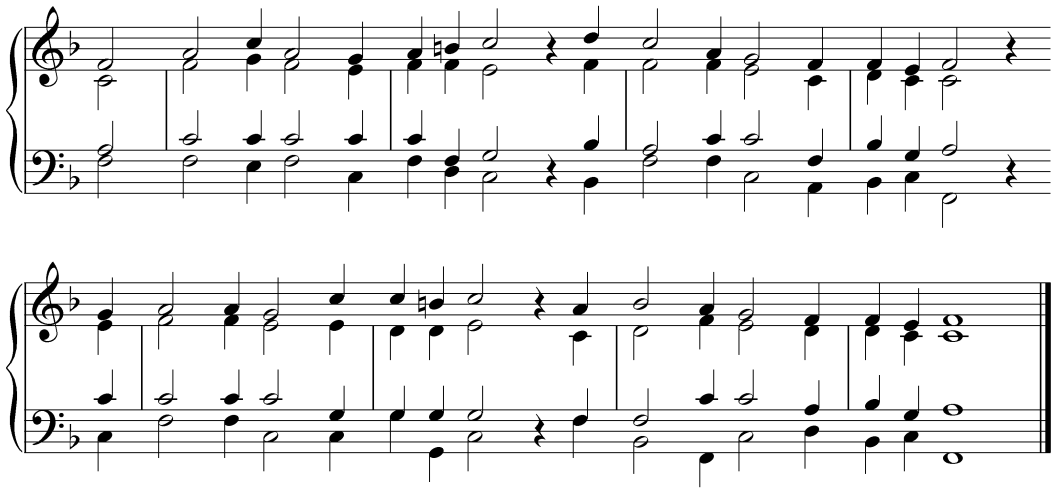
MODULATION

Modulation further considered
The subdominant
The intermediate dominant

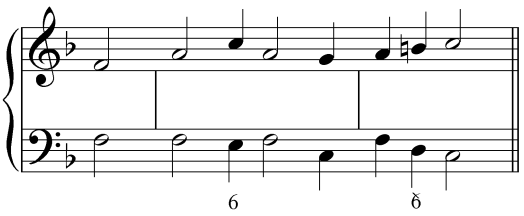
Modulation further considered

Modulation lends colour and tension to our progressions, and is indispensable in the harmonisation of many melodies. A number of settings have already been discussed in this respect (see Part I ch.19 and Part II ch.4). In the present chapter we examine further examples and consider the scope of the term ‘modulation’.

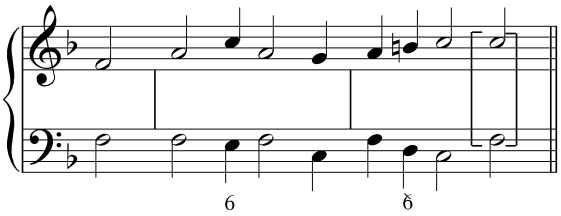
The chorale *Herr Jesu Christ, dich zu uns wend* has already been harmonised with triads in root position (Part I p.80). The following setting was published in Gotha in 1651:



At two points, B natural occurs in the melody, quite clearly as leading note to the following chord of C major. If we were to harmonise this chorale ourselves, we would have to decide whether a modulation to the key of C major is required at these points. By listening, we must establish the tonal centre: does the first phrase sound ‘finished’ on the final chord of C?

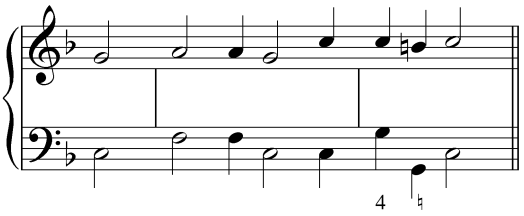


Or would it only sound ‘finished’ if we were to imagine a subsequent return to F?

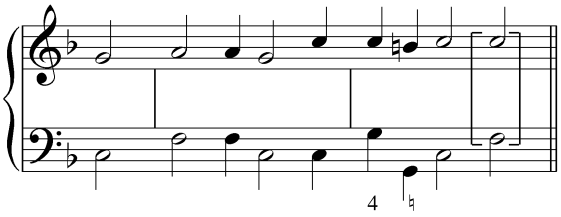


The F chord does seem to complete the phrase, confirming the tonic key by means of the V-I cadence. Despite the move from B natural to C in the melody, therefore, there is no mention of a modulation to the key of C major, neither is there a V-I cadence in that key.

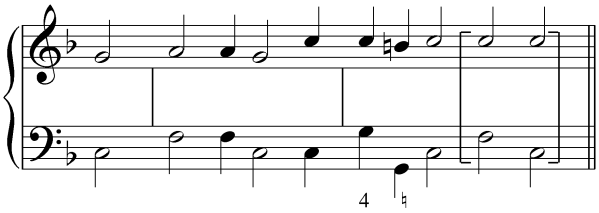
Let us examine the third phrase in the same manner:



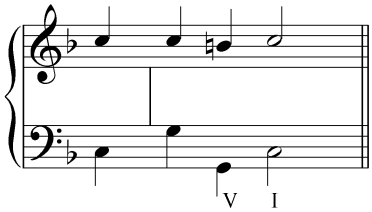
or:



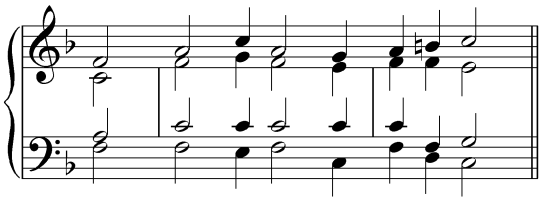
Here, the phrase does sound ‘finished’ on the final chord C. The added F chord seems slightly lost; what is more, this F chord really requires its own sequel - back to C!



In fact we have not only added two extra notes to the melody, but a plagal cadence (IV-I) that is superfluous, since the new key of C was already confirmed by the V-I cadence:



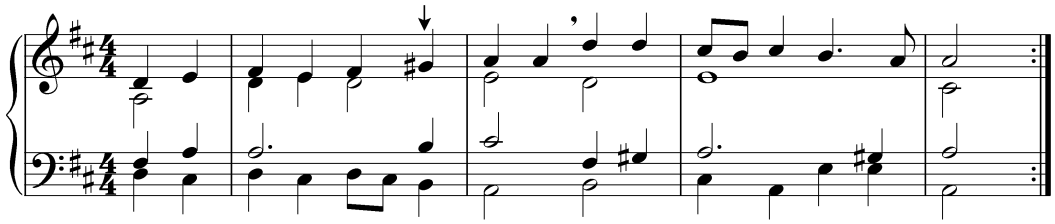
This differs essentially from the first phrase, where the dominant of the key of C was absent in the bass:



Here, we experience the melodic step from B natural to C as an alteration within the key of F major, the phrase ending with an imperfect cadence on the dominant. This chromatic sharpening or flattening - without consequences for the key - is known as an **altered chord**.

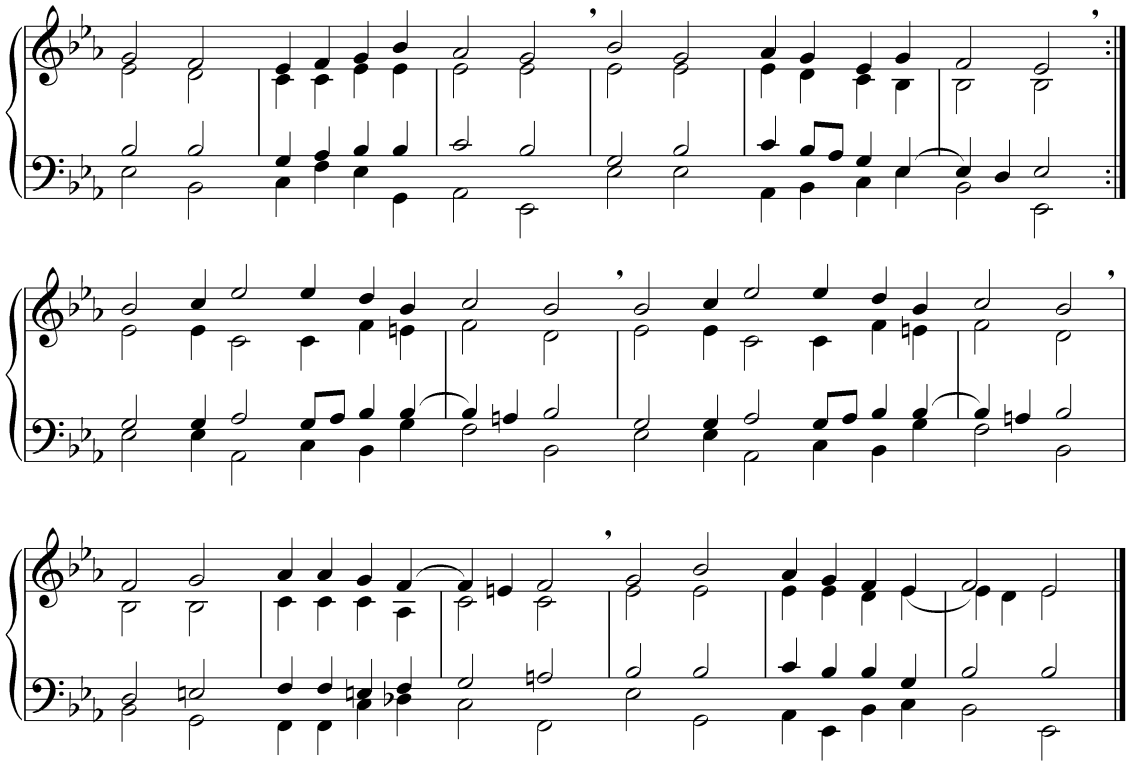
As we are beginning to see, ‘modulation’ is a somewhat elastic term. In the most modest of instances, a note that is strange to the key may briefly allude to another key without further consequences. Of quite different magnitude are the modulations of the classical sonata form of composers such as Haydn and Mozart, in which modulation is also a structural device, often announcing an extensive section in a new key, and therefore essential to the form of the whole composition. Our hymns and chorales are too short for such lengthy excursions. The transition from the third to the fourth phrase of *Herr Jesu Christ, dich zu uns wend* reveals that the modulation to C major at the end of the third phrase is of no consequence: the final phrase returns directly to F, as dictated by the B flat in the melody.

However, the first line of *O Durchbrecher aller Bande* (1704) illustrates how an allusion can indeed have further consequences, as the second phrase yields to the key of the dominant:

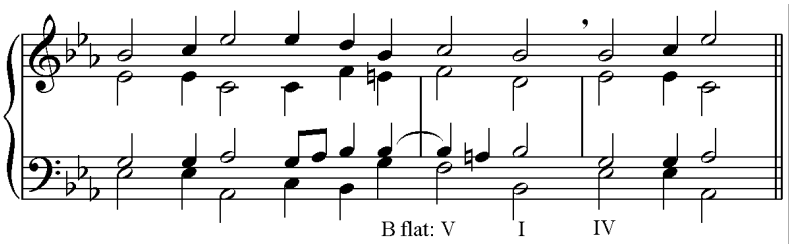


Our examples illustrate different kinds of ‘modulation’, varying from a brief encounter with a different key to a fully fledged change of key; only the latter deserves to be called a modulation. In all cases, there is mention of notes that are strange to the key, and which, depending on the situation, may herald new fields of tension.

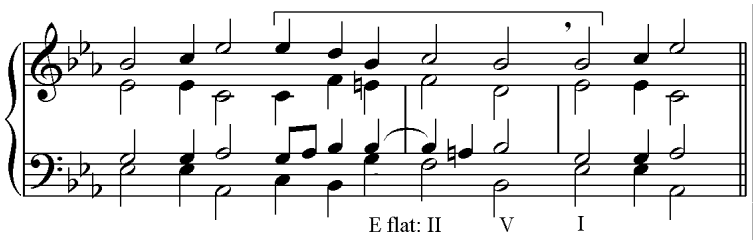
In this context, let us examine Johann Crüger’s *Schmücke dich, o liebe Seele* (1649):



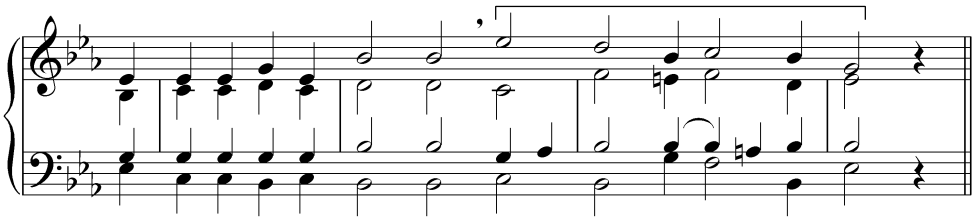
The second system features two modulations to the key of B flat major. In both cases, the cadence progression is identical. The context, however, is different, and so is the effect. After the first cadence in B flat, Crüger returns directly to the key of E flat. In retrospect, as it were, the question is raised whether this really is a cadence in the key of B flat major:



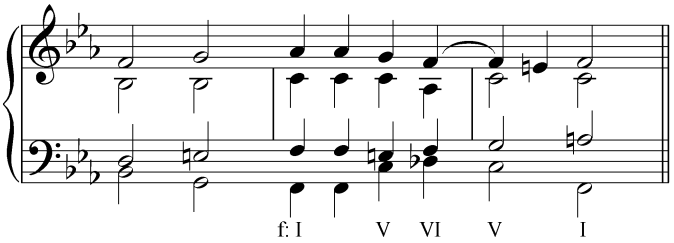
or rather, despite the altered chords, it is an imperfect cadence in E flat major:



Before concluding too quickly that we are dealing with a modulation to B flat, let us compare the beginning of *Herzlich tut mich erfreuen* (by the same composer). Remarkably, here we can harmonise the same turn of phrase in the melody without modulating to the key of B flat:



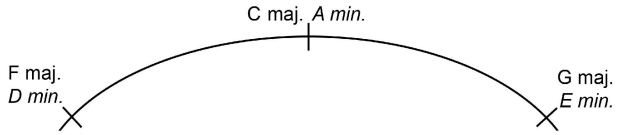
At the beginning of the third system of *Schmücke dich*, Crüger adopts a different approach. He repeats the B flat chord, and rather than returning to the key of E flat, he modulates to F minor, as his own melody indeed requires:



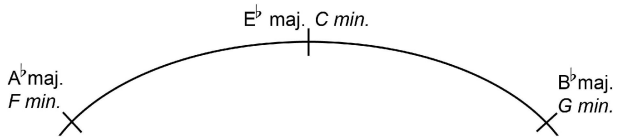
But then Crüger has a surprise in store as he ends in F major instead of F minor! We hear the familiar *Tierce de Picardie* (see Part I ch.14), of which he seems to have been fond.

The subdominant

Crüger's *Schmücke dich* is written in the key of E flat major. The key of F minor is the parallel minor key of the subdominant A flat. The fact that we will often encounter modulations to or via the subdominant is hardly surprising: the name 'subdominant' does not refer to the fact that it is one degree below the dominant, but to the fact that it occupies the same position below the tonic as the dominant above the tonic. The subdominant is therefore the 'lower 5th' of the tonic. Here again, it is so important to think in terms of the circle of 5ths, in which the dominant and subdominant, on each side of the tonic, keep each other in balance:

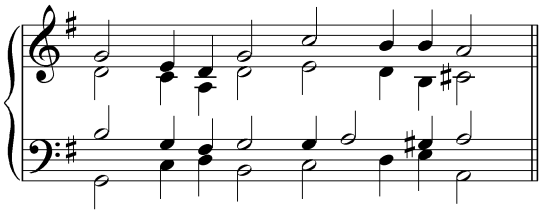


In respect of the key of C, the key of the dominant is a 5th higher and that of the subdominant a 5th lower. We can turn the circle of 5ths to place the key of Crüger's *Schmücke dich* at the top:

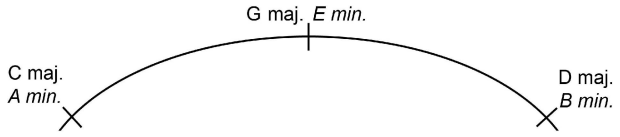


The 'upper 5th' takes us to B flat major, the key of the dominant, while the 'lower 5th' takes us to A flat major and the parallel key of F minor.

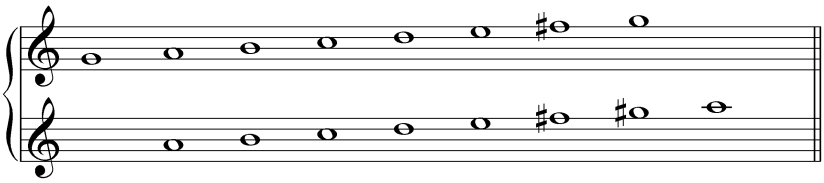
Let us stay with Crüger. His *Sei Lob und Ehr dem höchsten Gut* (1653) begins as follows:



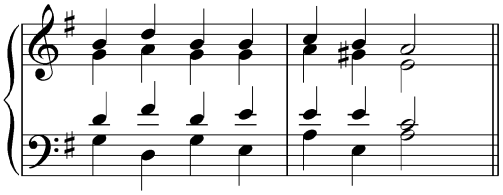
Within this short opening phrase, Crüger 'modulates' from G major to A minor! (Here once again is the *Tierce de Picardie*: the C in the soprano and bass leads us to expect a cadence in A minor.) If we think <u>via</u> the subdominant, the key of A minor is less far from the key of G than one might think:



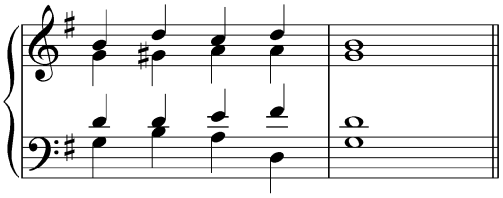
Moreover, the lowered degree VI in the harmonic minor scale (F in the key of A minor) was not taken for granted during the transition from the medieval modes to the tonal system.[+] Where degree VI is not lowered, the <u>harmonic</u> minor scale is identical to the rising <u>melodic</u> minor scale! Viewed thus, the scale of A minor is remarkably close to the scale of G major:



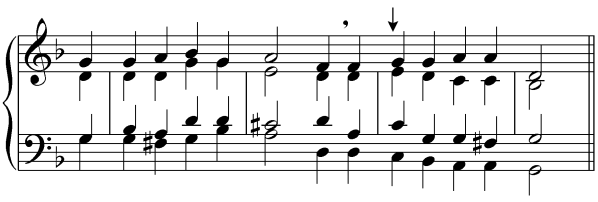
The only difference in the actual notes is G sharp; a modulation from G major to A minor is therefore quickly made:



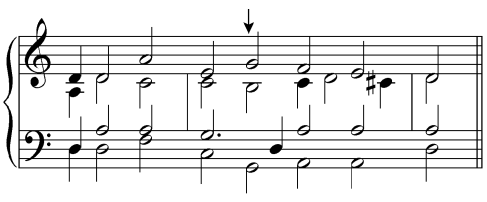
and a 'brief encounter' with A minor is even quicker:



+ The following settings by Michael Praetorius were published in 1609 and 1610 respectively:
(a) *Von Gott will ich nicht lassen*:



(b) *In dich hab ich gehoffet Herr*:

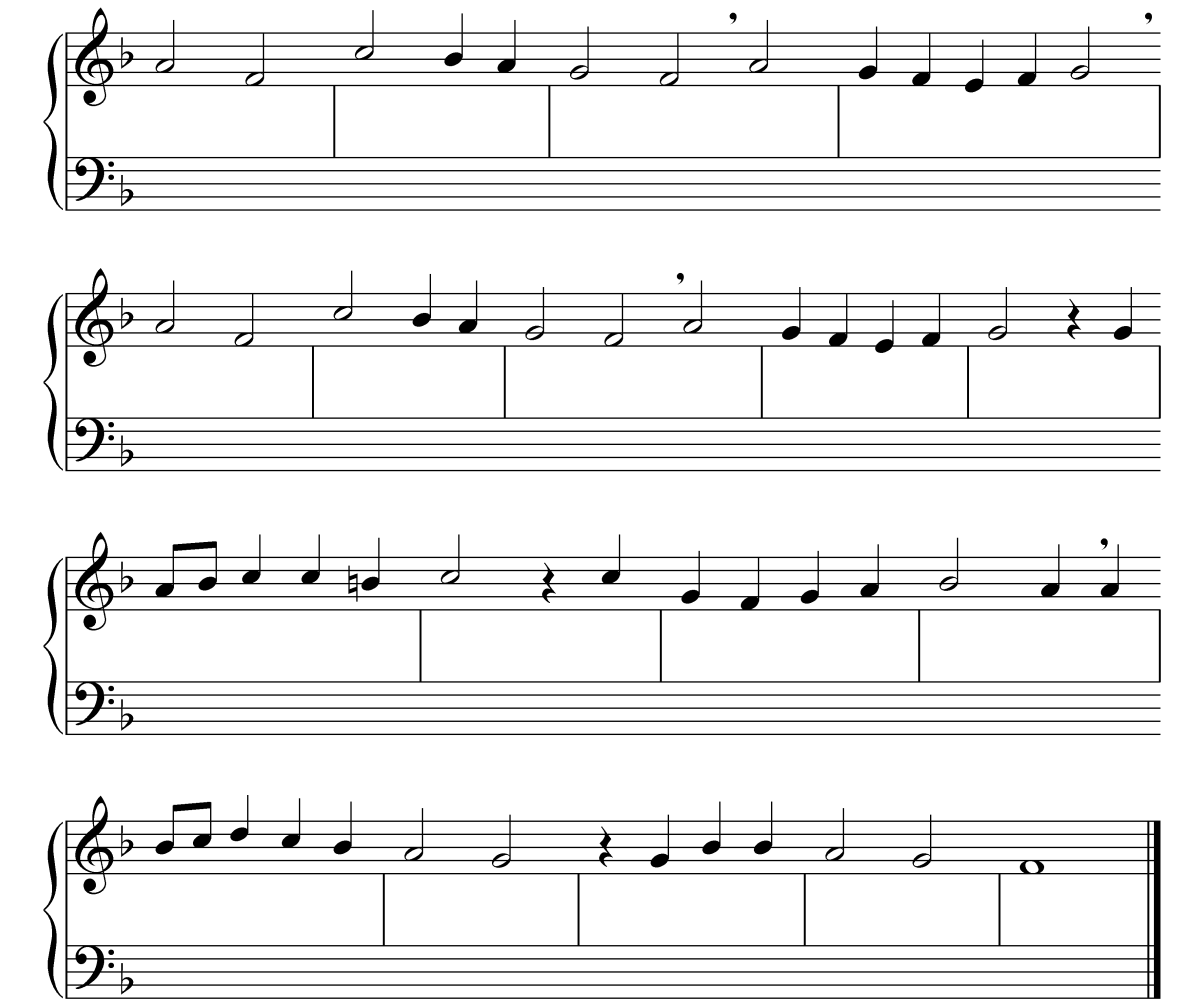


In comparison with modern practice, a flat is lacking in the key signature to indicate the lowered degree VI. At the points indicated, the major triad occurs on degree IV instead of the minor triad.

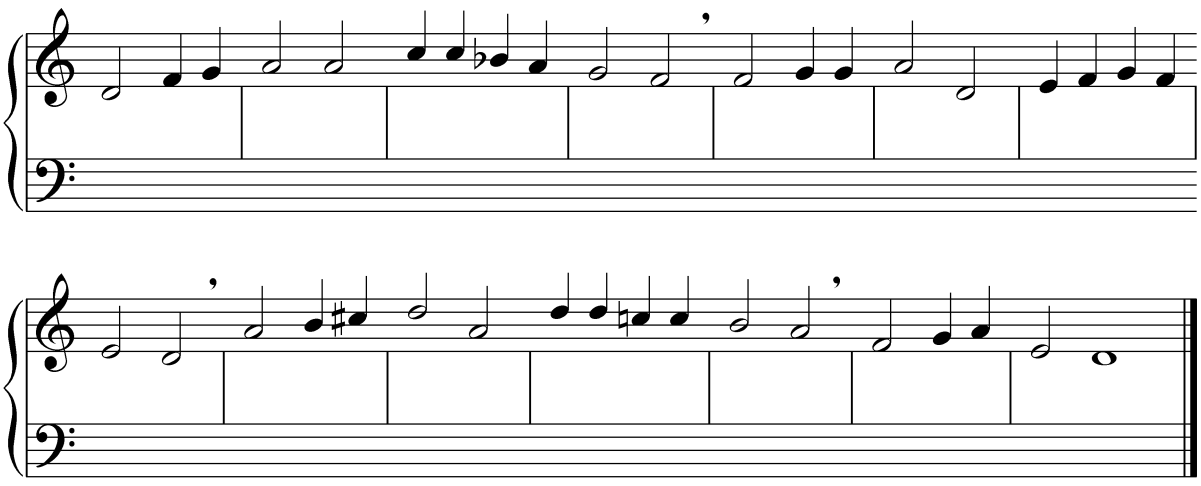
EXERCISES:

1. In harmonising the 17th-century chorale tunes given below, we may modulate to the key of the dominant, to the parallel key, and via the key of the subdominant. Listen to each melody, write a bass and practise in four parts.

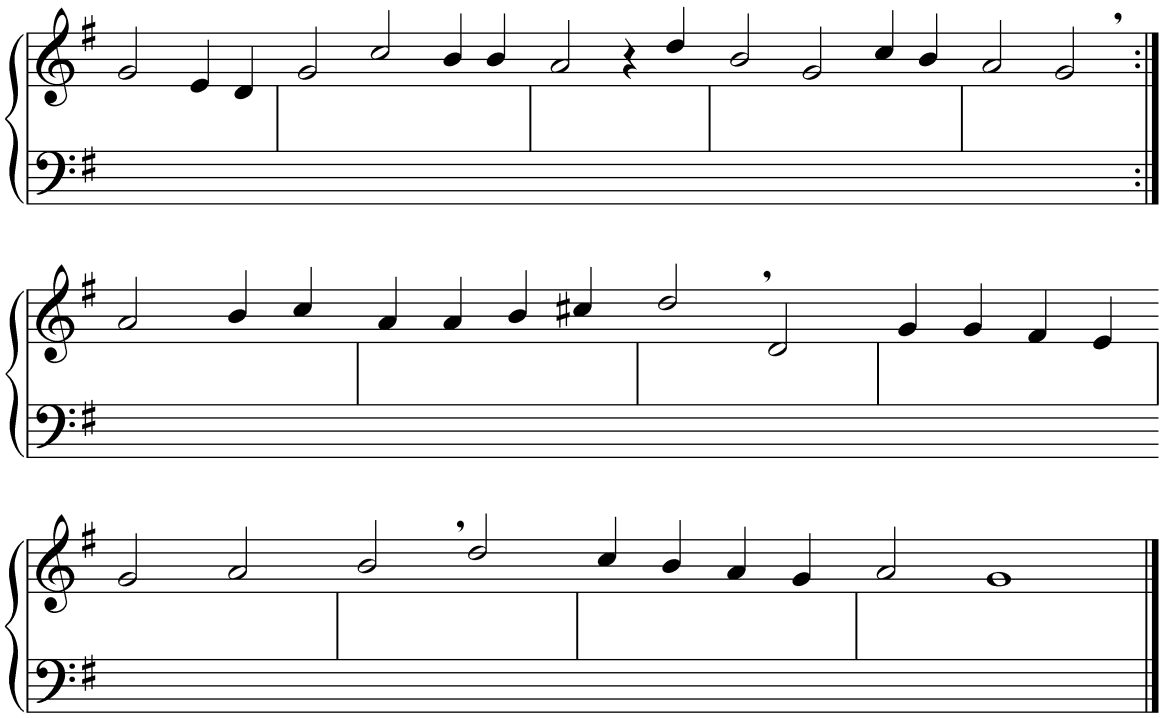
(a) *Zeuch ein zu deinen Toren*



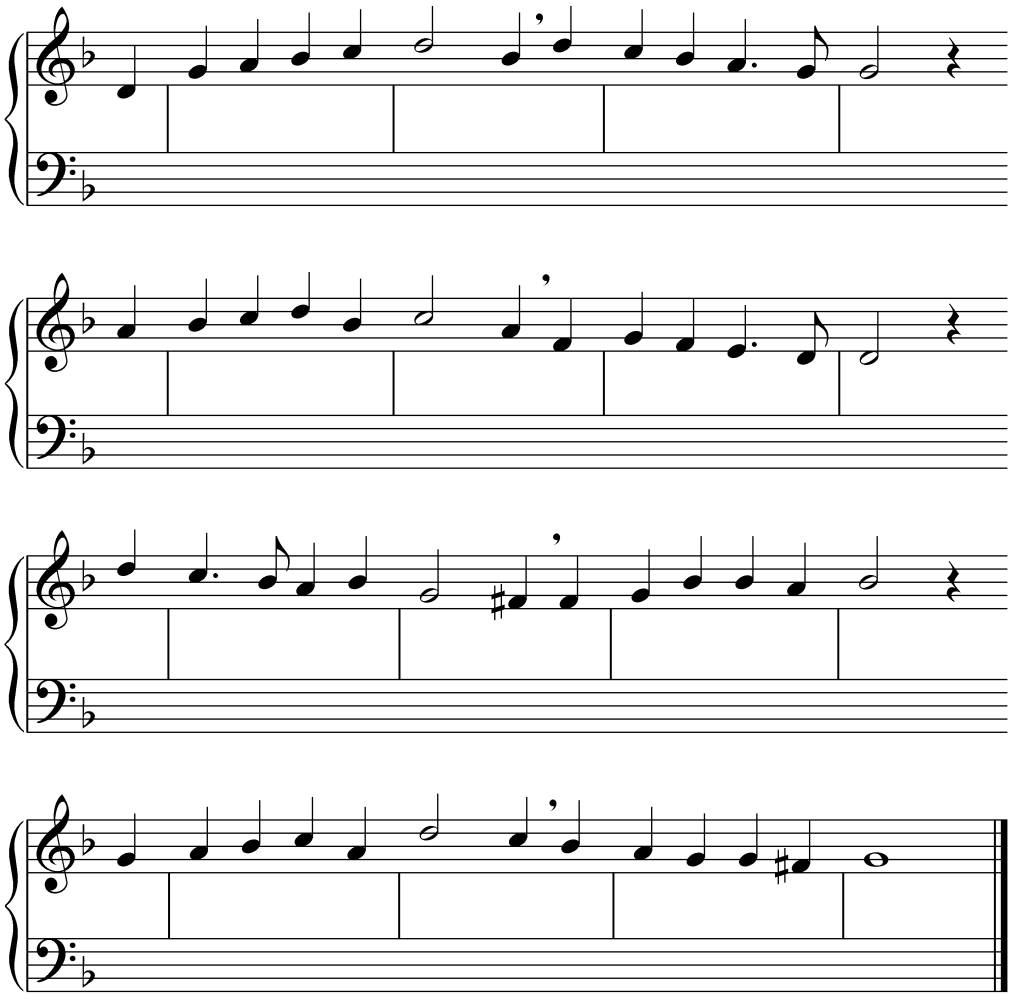
(b) *Lobet den Herrn und dankt ihm seine Gaben*



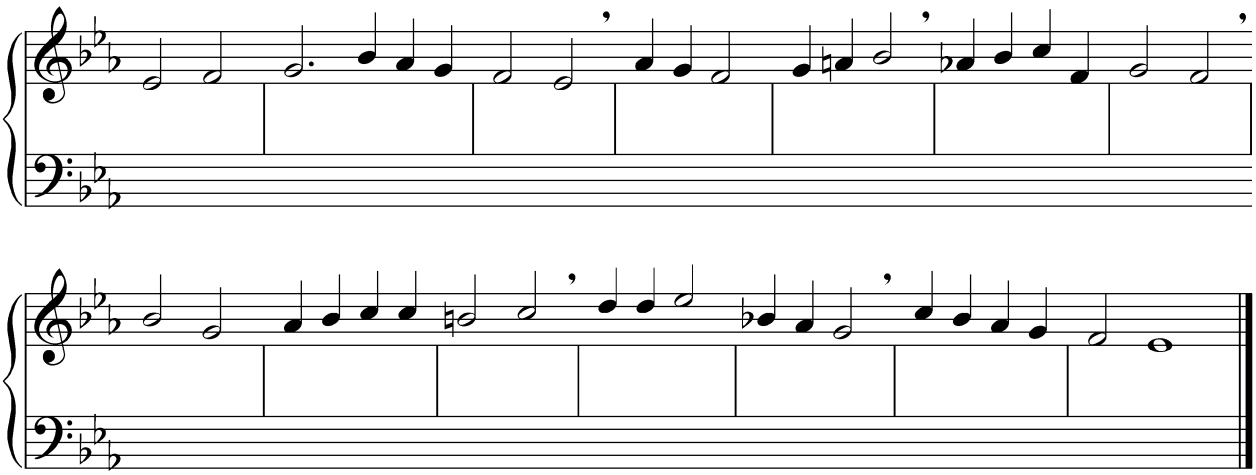
(c) *Sei Lob und Ehr dem höchsten Gut*



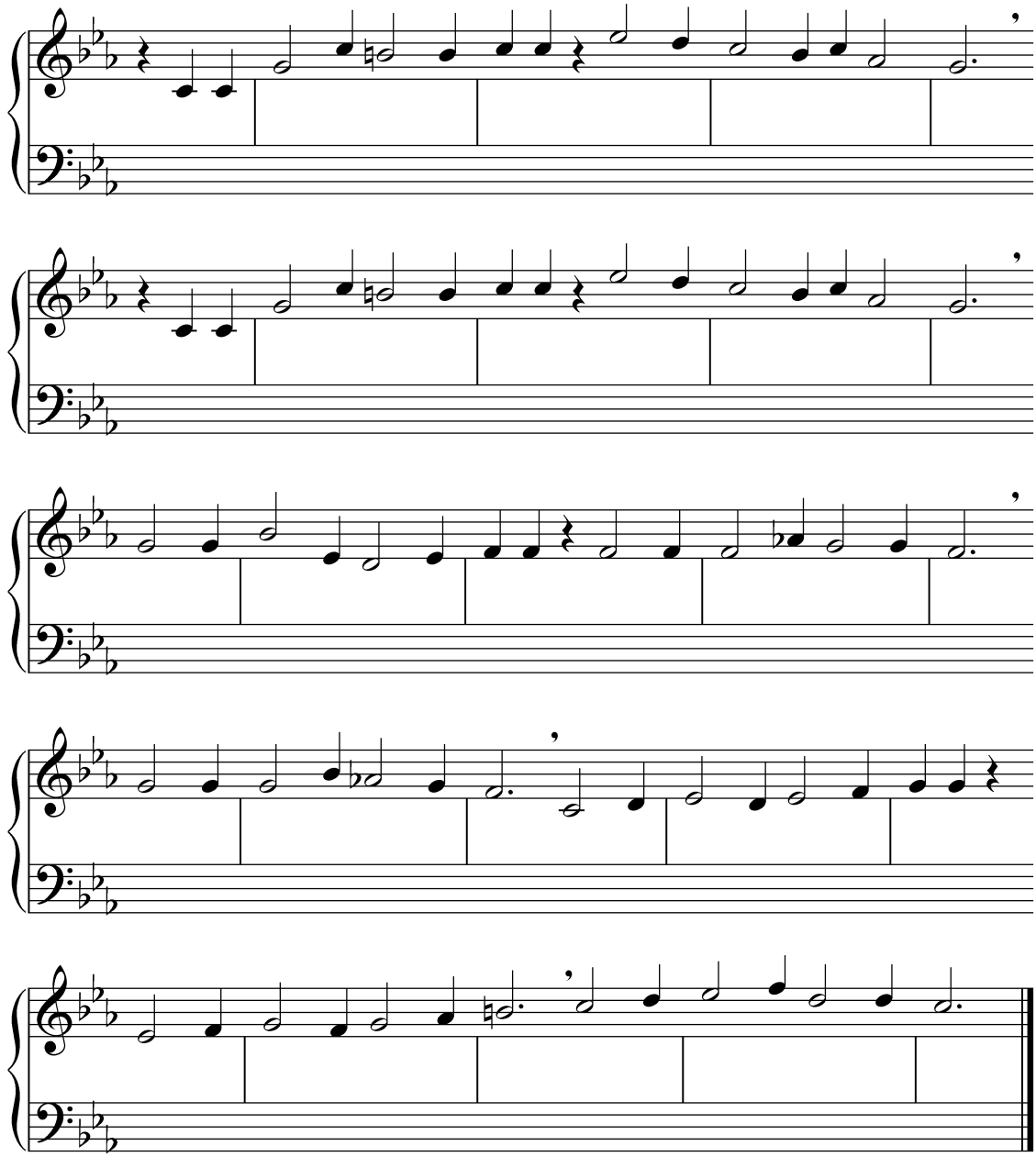
(d) *Ik hoor trompetten klinken*



(e) *Fröhlich soll mein Herze springen*



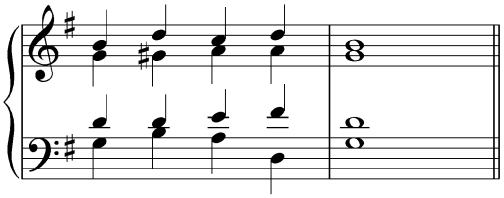
(f) *Sollt ich meinem Gott nicht singen*



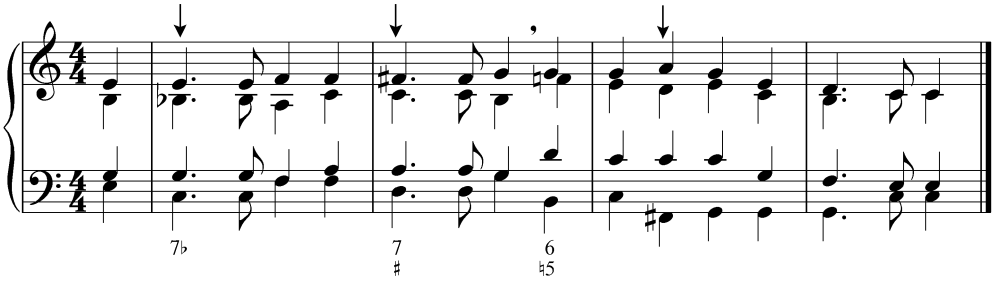
2. Practise the following transpositions: *Zeuch ein zu deinen Toren* in D and A major; *Lobet den Herrn* in C and E minor; *Sei Lob und Ehr* in F and B flat major; *Ik hoor trompetten klinken* in F and A minor, *Fröhlich soll mein Herze springen* in C and G major, *Sollt ich meinem Gott nicht singen* in B, D and E minor.

The intermediate dominant

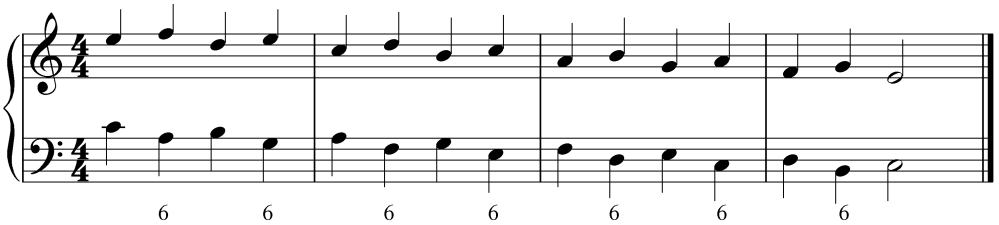
The 'brief encounter' in the previous example (p.102) is the diminished triad (in the 1st inversion) on the altered degree I (G sharp):



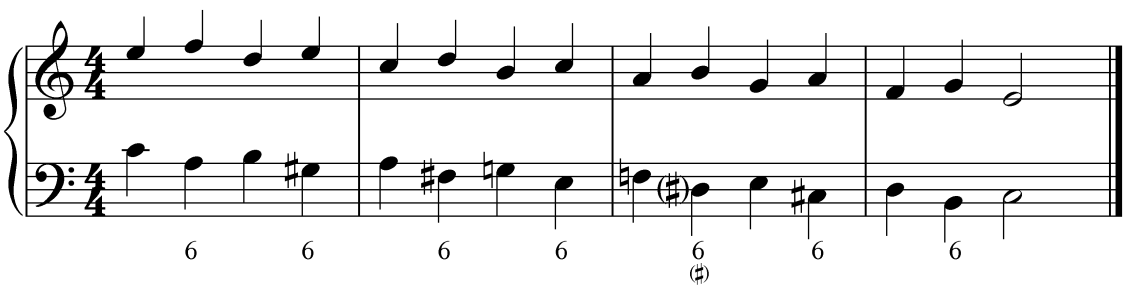
The alteration G sharp could be viewed as the leading note in the key of A major or minor, which the third chord might well suggest. However, this third chord is none other than the triad on degree II in the key of G major, and this explains why we experience the second chord as nothing more than a brief encounter. In this case, the diminished triad is an **intermediate dominant**: the triad of A minor (degree II in G major) is preceded by its own dominant. But the root E is absent, and this intermediate dominant is not strong enough to effectuate a fully fledged modulation without the help of complementary chords.
John Bacchus Dykes's *Melita* employs many dominant-7-chords that function as intermediate dominants (with the root!). Here are the final lines:



In Part II ch.8 we practised the following sequence:



We may change a number of 6-chords into intermediate dominants; the triads in root position remain unaffected, and the alterations are no threat to the key of C major:

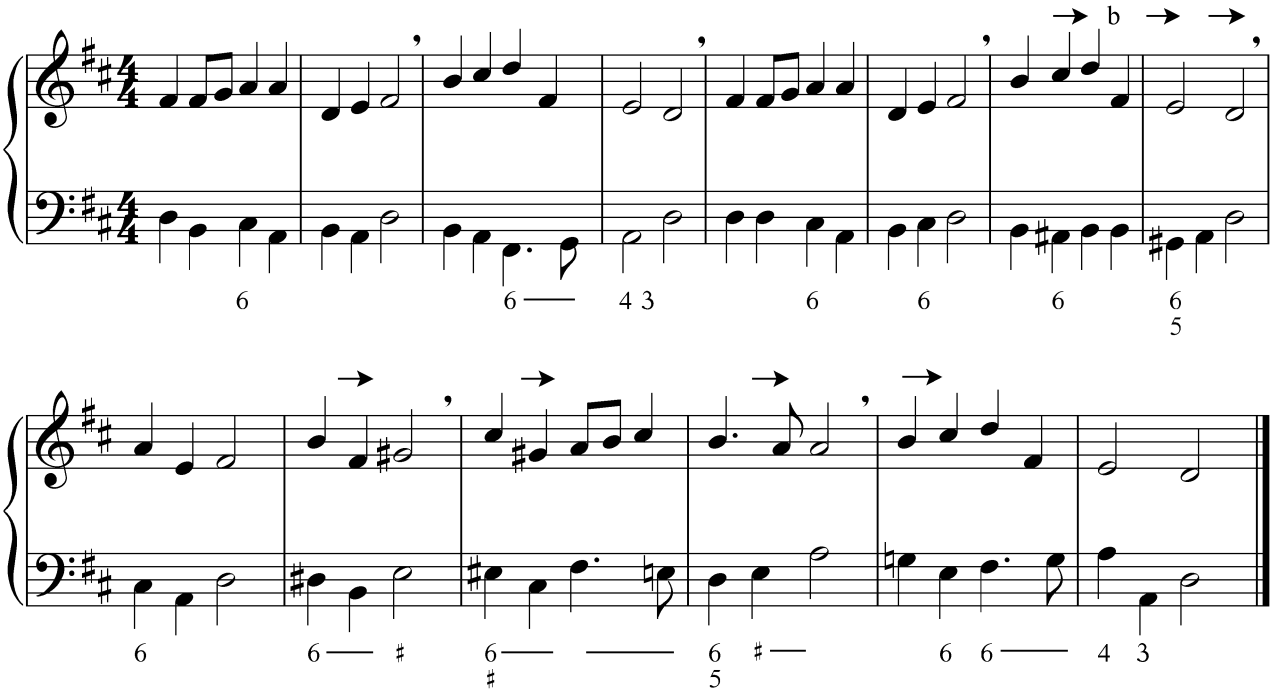


EXERCISES:

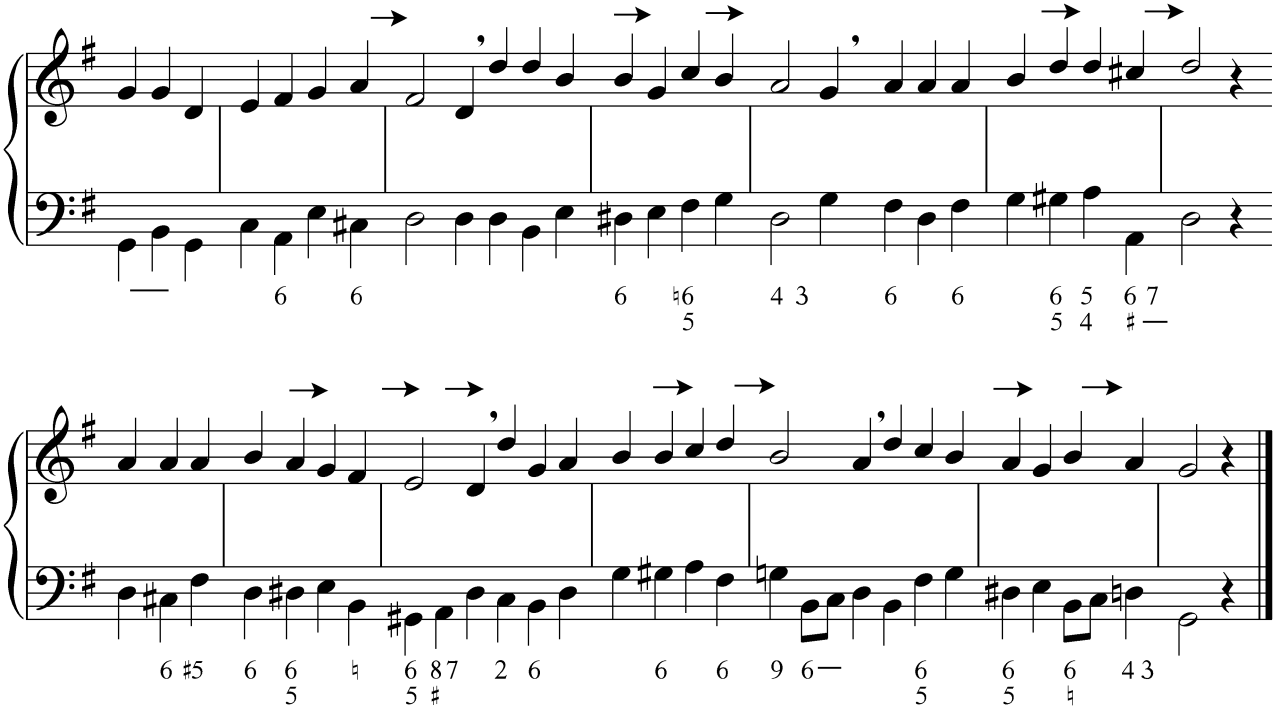
3. Practise the above sequence in four parts in all major keys. The sequence begins and ends with the 3-position on the tonic. On the strong beats, the descending scale of the key is in the bass; on the weak beats, the bass jumps down by a minor 3rd.

4. The following chorale settings feature intermediate dominants. Make a note of all allusions or modulations to a new key as indicated at the first arrow (use a capital letter for major and a small one for minor). Play the settings in four parts.

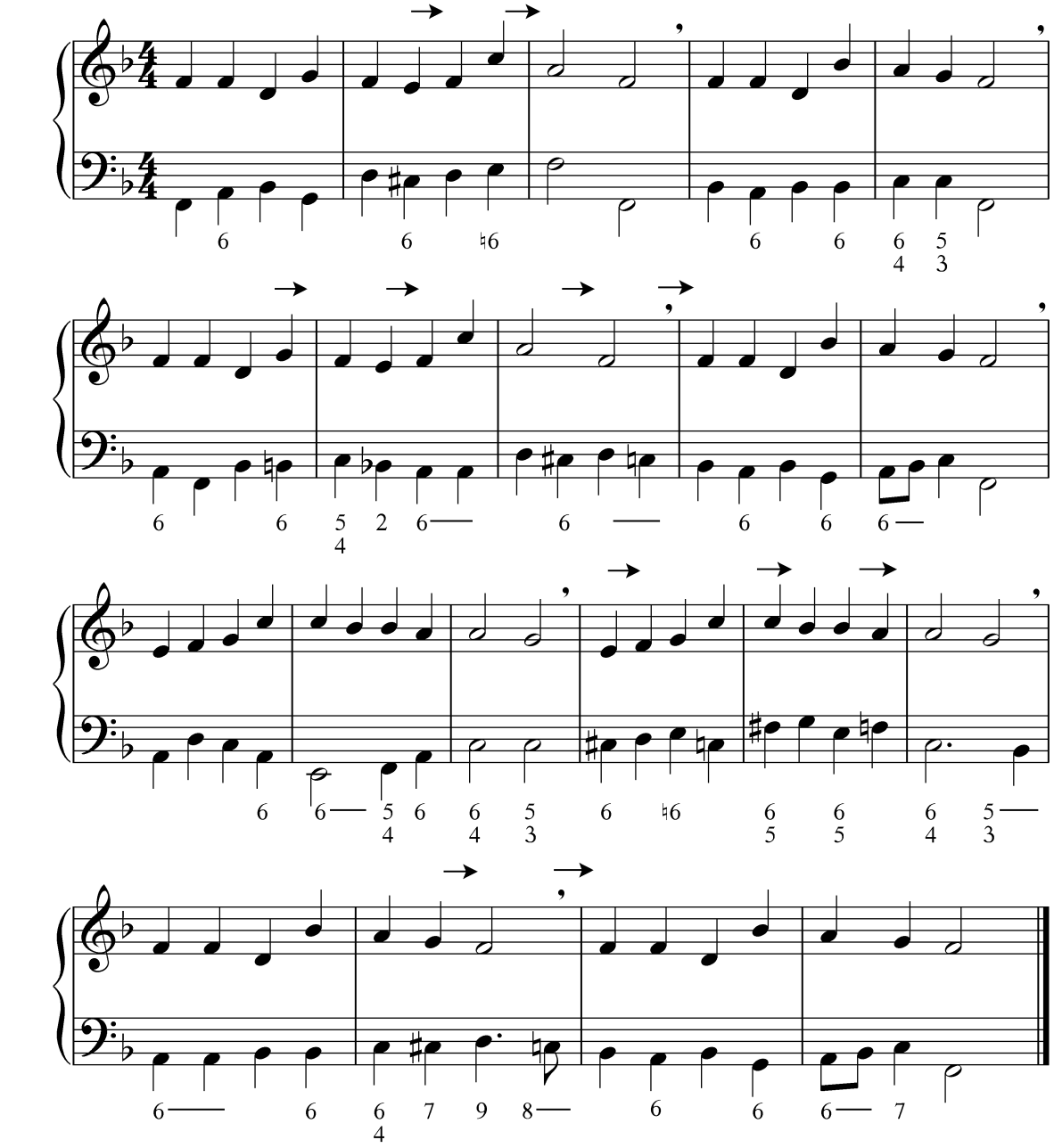
(a) *Straf mich nicht in deinem Zorn*



(b) *Auf Dich mein Vater will ich hoffen*

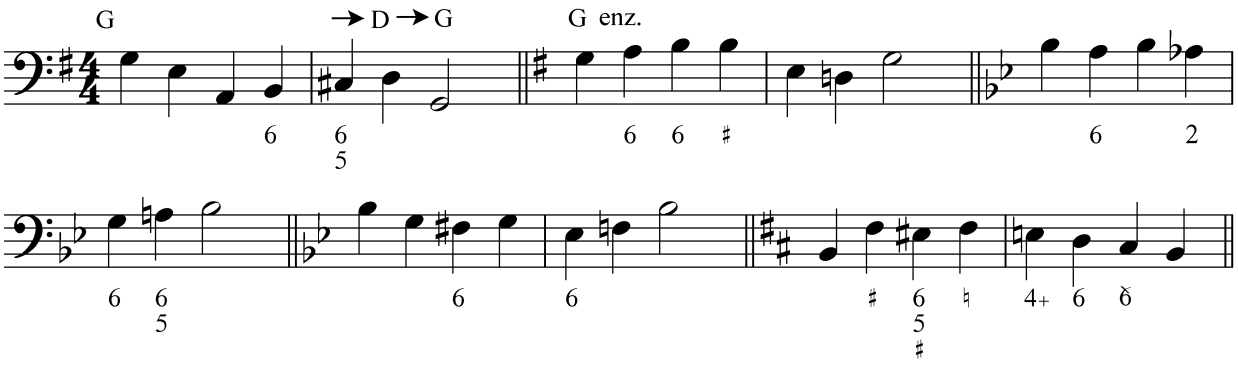


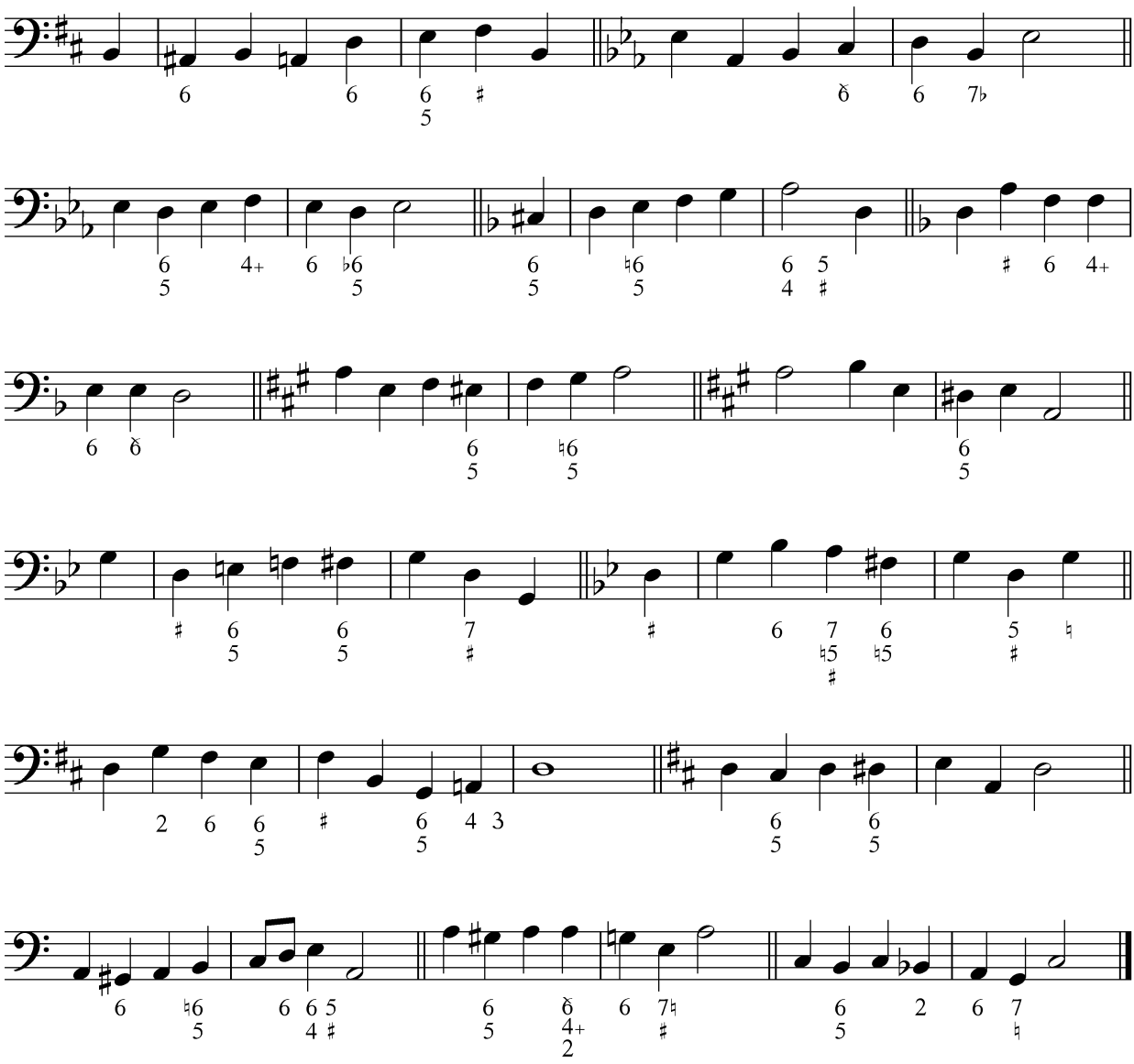
(c) *Herr und Ältster deiner Kreuzgemeine*



5. Practise the following transpositions: *Straf mich nicht* in C and E major; *Auf dich mein Vater* in F and B flat major, *Herr und Ältster* in E flat and G major.

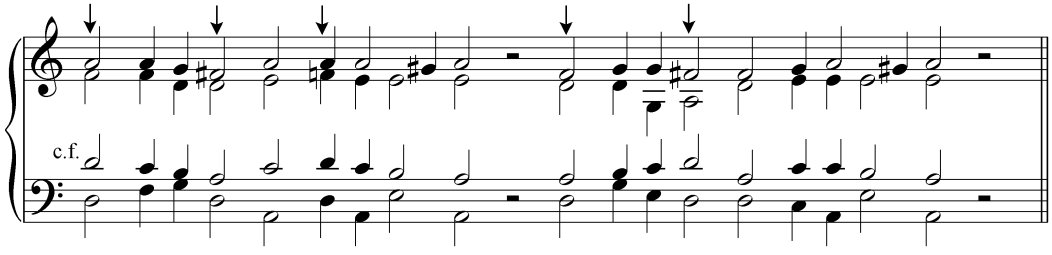
6. In the following phrases an intermediate dominant alludes to a new key. Fill in the keys as indicated and play the phrases in different positions.



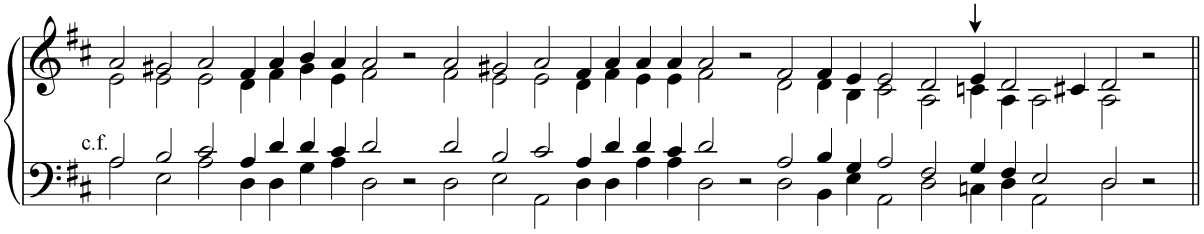


Other accidentals

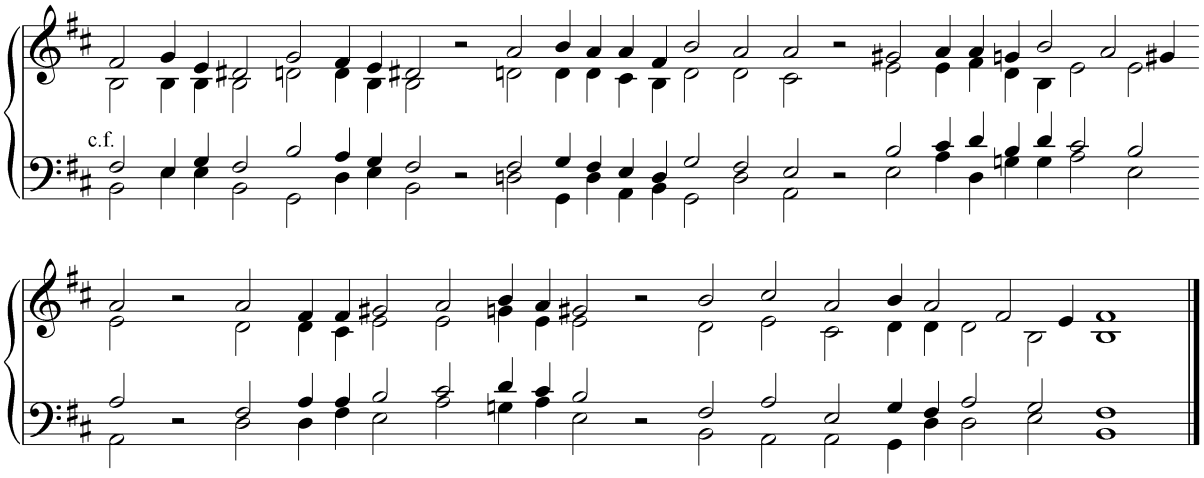
As we have seen, not all accidentals (sharps and flats that occur incidentally in the course of a piece) indicate actual shifts of key. In music written during the transition from the medieval modes to the classical tonal system we encounter situations that do not entirely fit into either system, but rather reflect the tension between the two. This includes the question of the raised or lowered degree VI in the minor key.
Some accidentals are nothing other than whimsical colouring on the part of the composer. A glance back at the 16th century reveals that the transitional period allowed the composer considerable freedom. Characteristic of Claude Goudimel, for example, is his habit of ‘colouring’ by alternating major and minor triads on a common root. Lightness and darkness alternate at the beginning of Psalm 149:



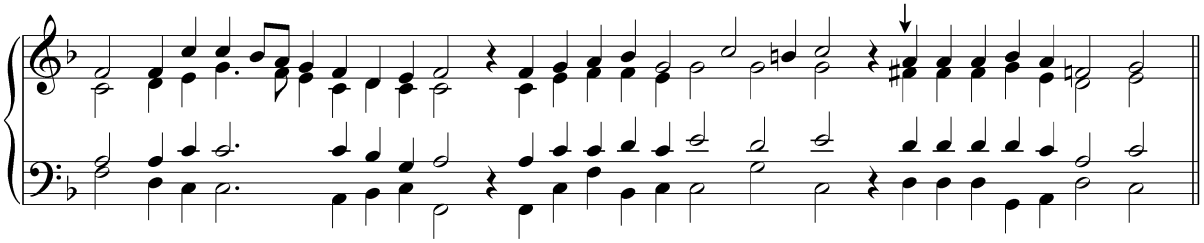
In Psalm 113, amid a setting full of tonal cadences, Goudimel suddenly lowers degree VII at a point where we mortals (and the composer too in the other lines!) would surely play degree IV (n.b. the setting is a harmonisation of the tenor!):



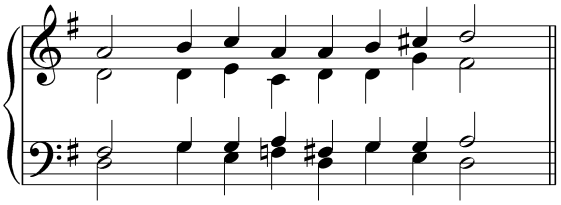
Goudimel's setting of Psalm 132 is so whimsically colourful that it deserves to be quoted in its entirety:



As classical tonality gained ground, the space for such harmonic colouring became more limited. In the 17th century, however, many examples can still be found. Which of us, 50 years after Goudimel's psalm settings, would have come up with Calvisius's major triad at the beginning of the third line of *In dich hab ich gehoffet Herr*?:



Another 50 years on, in 1653, our hero Crüger came up with the following in his *Sei Lob und Ehr dem höchsten Gott*:



And even all this is rather pale compared to the truly Baroque harmonies of the great Claudio Monteverdi in the first decades of the 17th century!

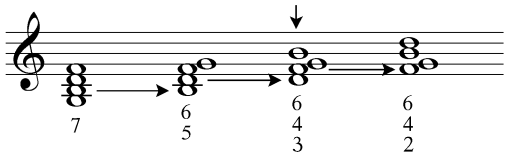
10

THE SIX-FOUR-THREE-CHORD

The 2nd inversion of the 7-chord
Application of the 6-4-3-chord

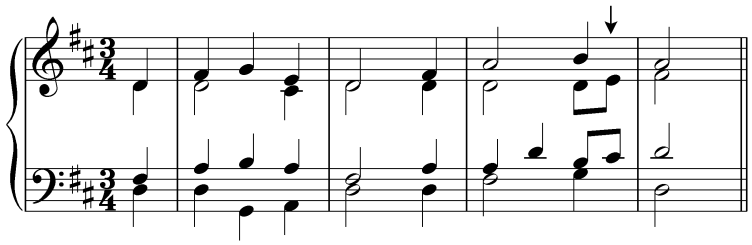
The 2nd inversion of the 7-chord

Of the three inversions of the 7-chord, the 1st and 3rd have already been discussed. Although the 2nd, the **six-four-three-chord**, is less common, it is indispensable to our vocabulary:

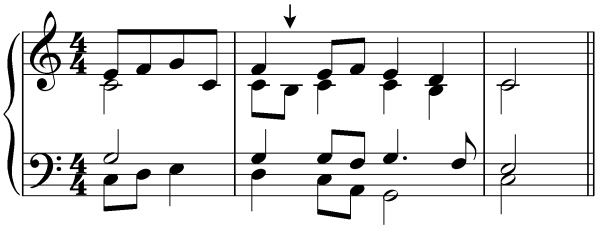


The bass of the 6-4-3-chord is the 5th of the 7-chord. The full name six-four-three-chord is usually shortened to four-three-chord and indicated by the figured bass $\frac{4}{3}$.

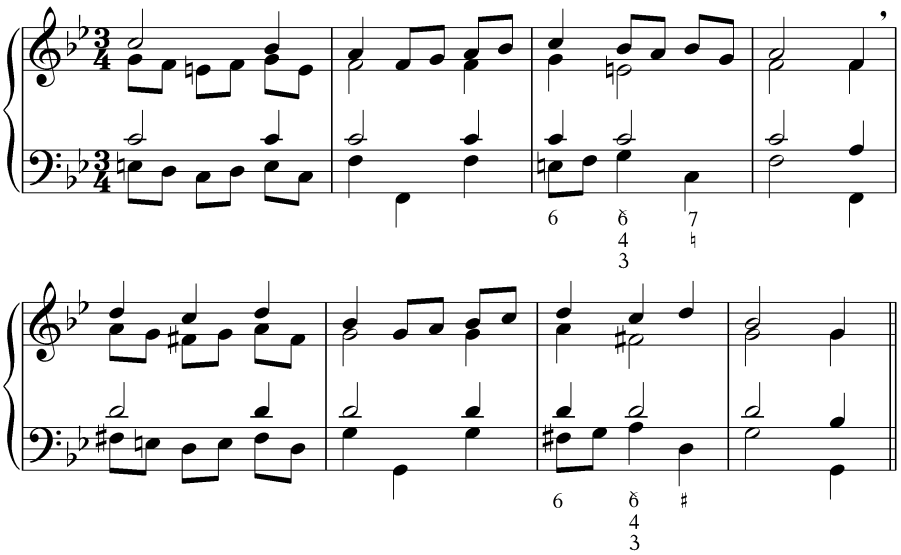
In Edward Miller's *Caton* the 3rd, 4th and 6th come together through the linear movement of parallel passing notes at the weakest point in the bar:



In the anonymous *Easter hymn* the 4-3-chord is also the result of linear, unaccentuated movement:

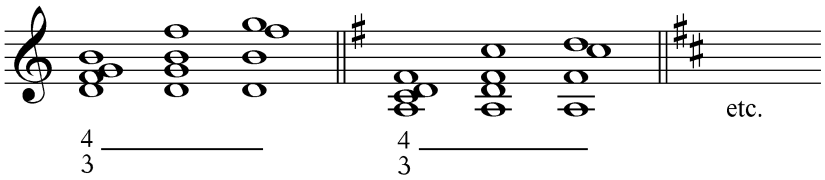


However, in Bach's setting of *Jesus unser Trost und Leben*, the 4-3-chord acquired a place of its own between other inversions of the triad and 7-chord on the dominant:

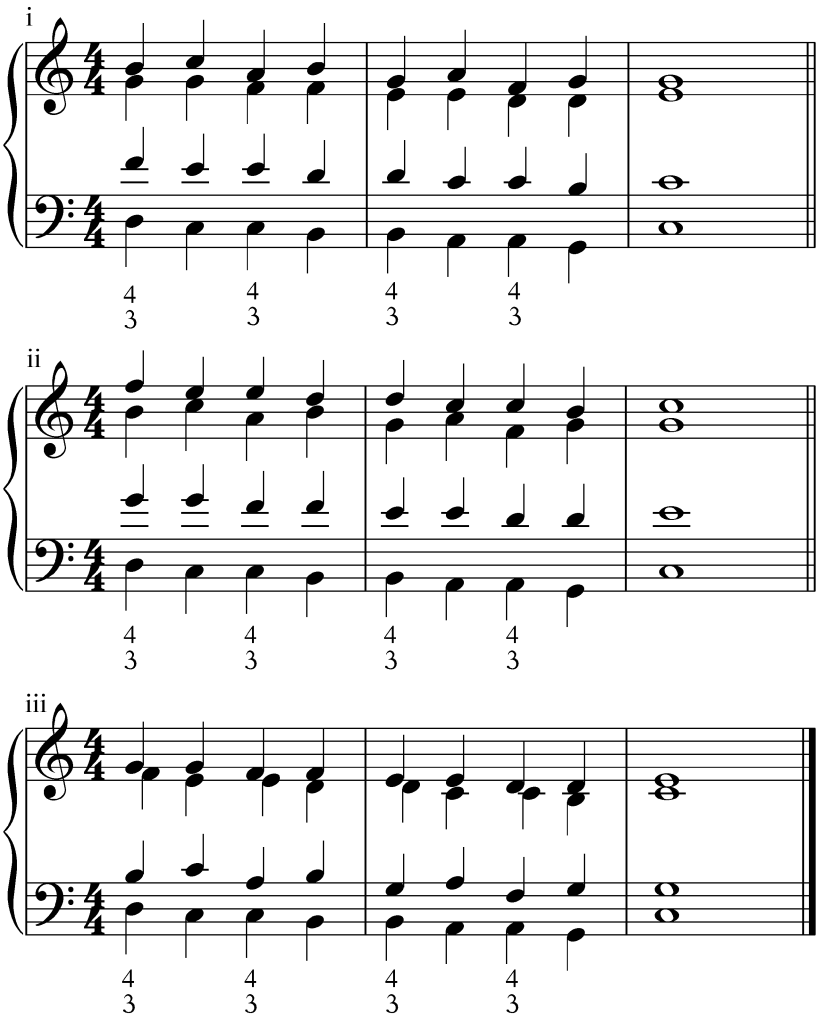


EXERCISES:

1. Practise the 2nd inversion of the dominant-7-chord in three positions in all keys:



2. Play the following sequences in all major keys:



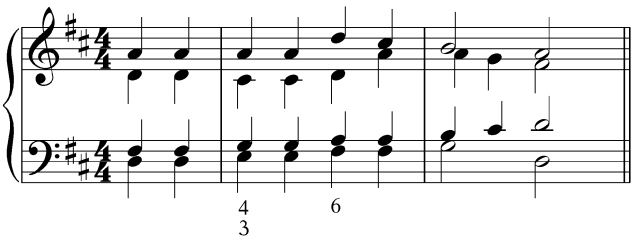
3.* Repeat the sequences with a solo voice and pedals.

Application of the 4-3-chord

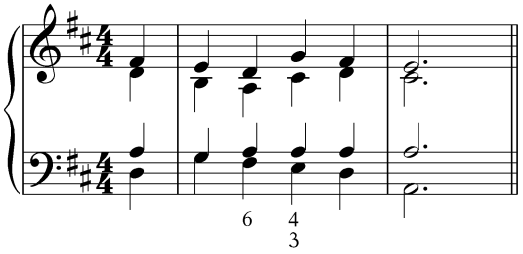
The 4-3-chord occurs with increasing frequency in 18th- and 19th-century hymns and chorales. Generally speaking, this 2nd inversion of the 7-chord is employed in the following three situations.

(i) The I-V-I progression

The 4-3-chord is primarily employed as dominant-7-chord between the root position and 1st inversion of the tonic triad; in other words, as one of the many 1-V-1 progressions. John Goss begins his *Praise my soul, the king of heaven* as follows:



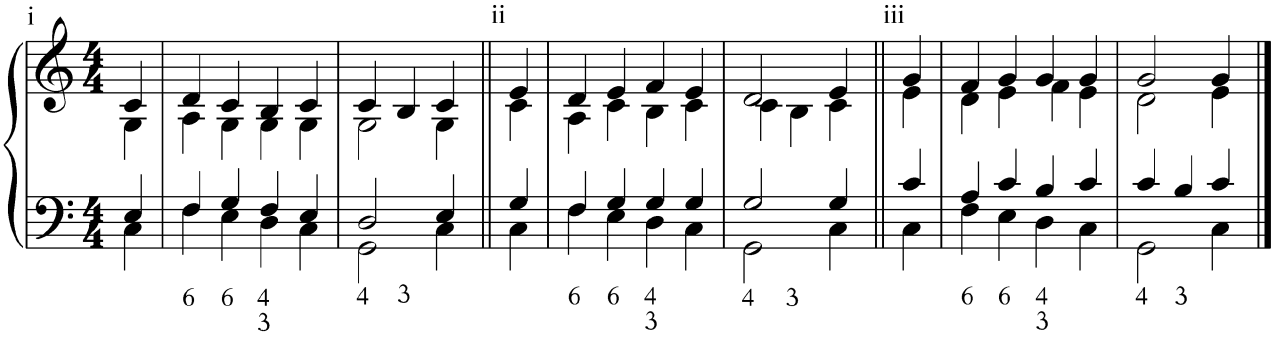
Before and after the 2nd inversion of the dominant-7-chord we hear the tonic triad, first in root position and thereafter in the 1st inversion; the bass rises stepwise from the 4-3-chord to the 6-chord. In the 4-3-chord, the 7th - G in the tenor - does not resolve downwards, but rises with the bass. At the end of this chapter we will return to the phenomenon of the rising 7th.
In the hymn *St Peter,* Alexander Robert Reinagle employs the same I-V-I progression, but in reverse order with descending bass:



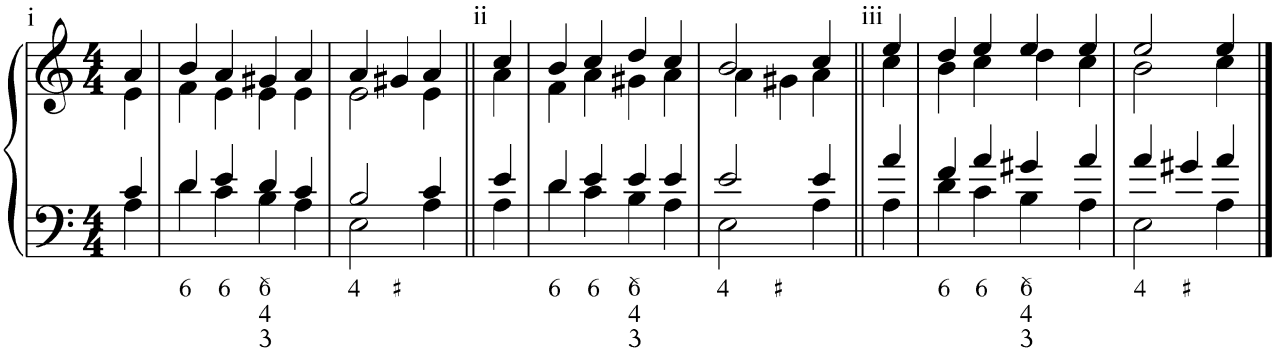
Reinagle incorporates the 7th G in his melody, even emphasising it through the upwards leap.

EXERCISES:

4. Practise the following cadential phrases in all major keys:



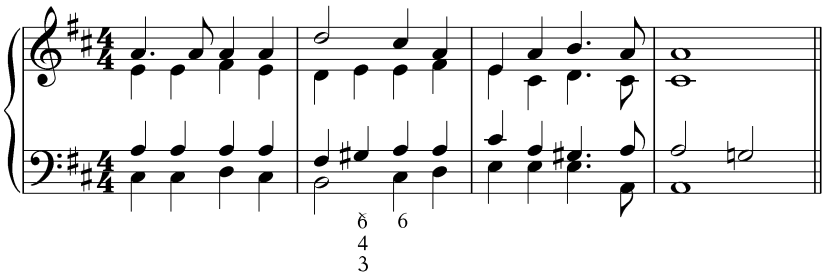
5. Repeat the cadential phrases in the minor keys of A, E, B, F sharp, D, G, C and F:



6.* Repeat ex.4 and 5 with a solo voice and pedals.

(ii) The intermediate dominant

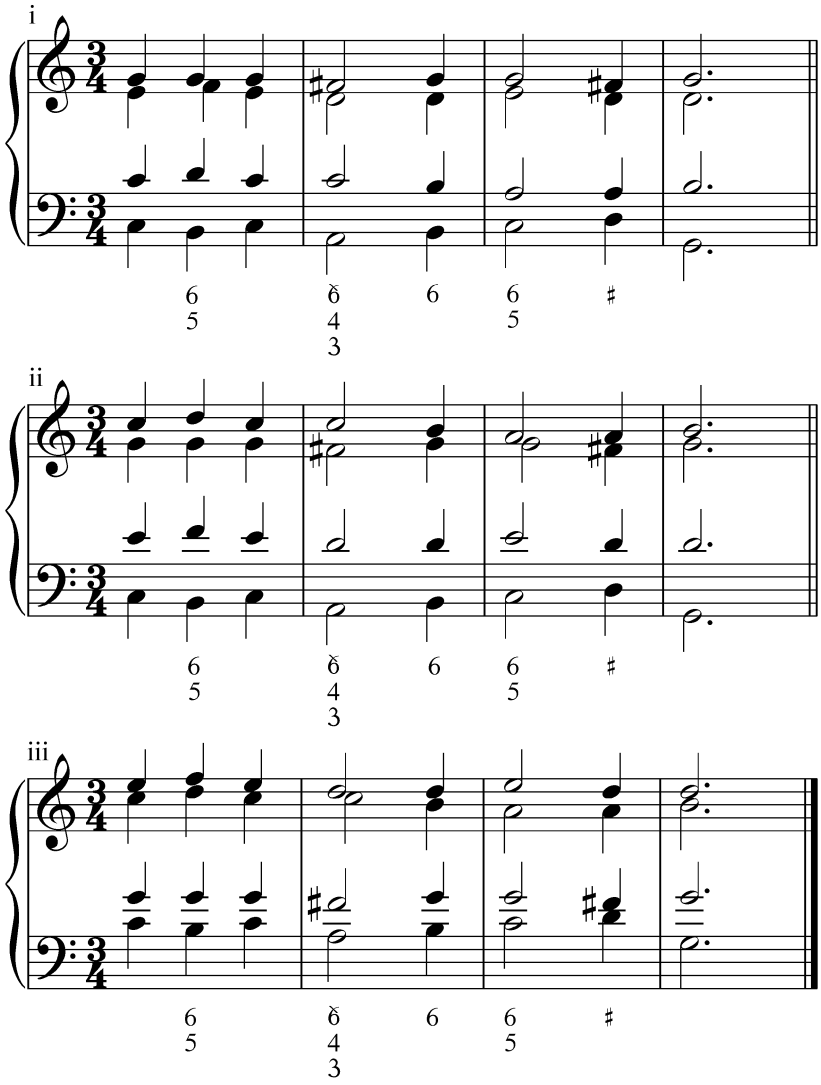
The 4-3-chord is also employed as an intermediate dominant, as in John Bacchus Dykes's *Nicea*:



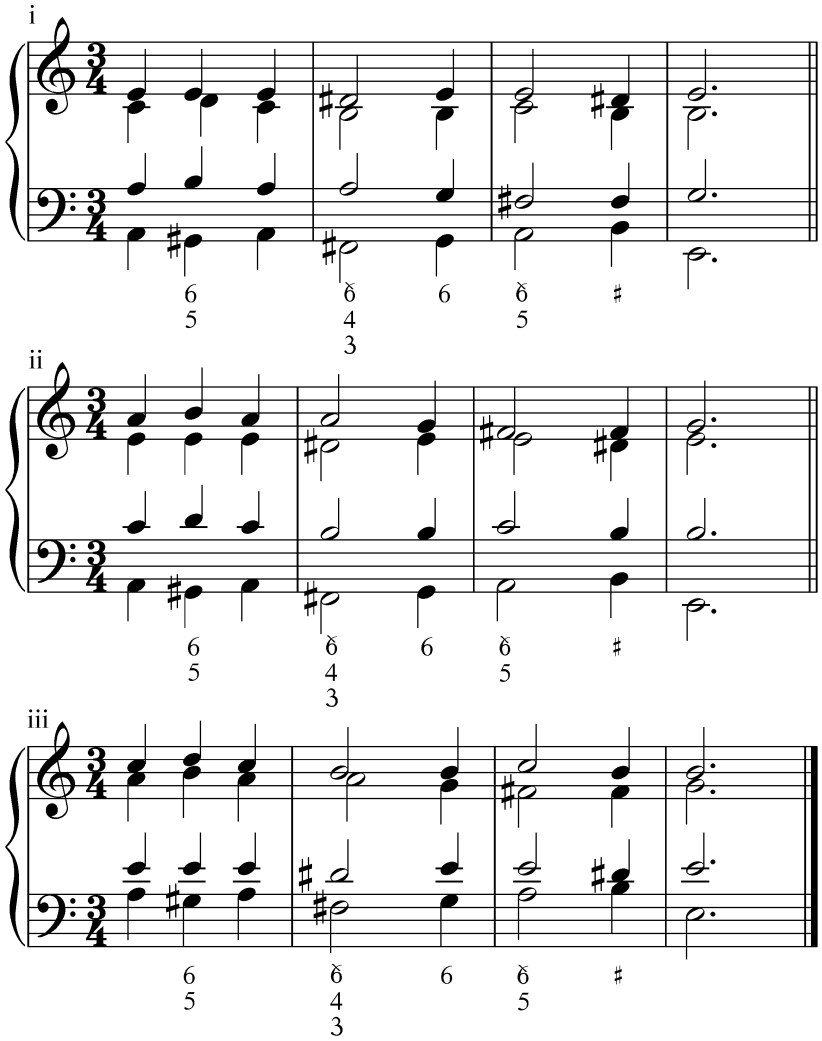
Here the 4-3-chord is the dominant 7th of the key of A major. It heralds a modulation which is confirmed by the V-I cadence in A major.

EXERCISES:

7. The following phrases modulate to the key of the dominant. Practise in four parts in all major keys:



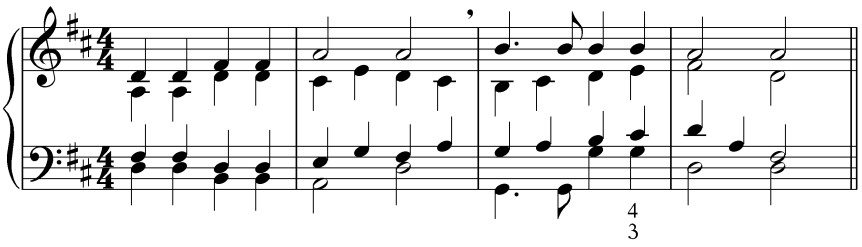
8. Repeat these phrases in the minor keys of A, E, B, F sharp, D, G, C and F:



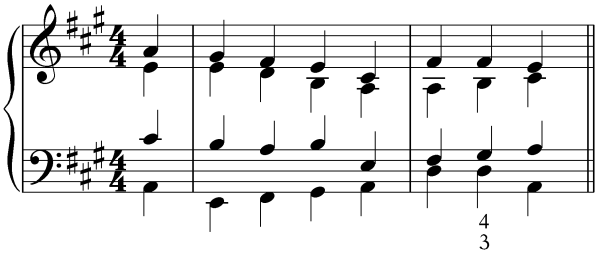
9.* Repeat ex.7 and 8 with a solo stop and pedals.

(iii) ‘Plagal’ passing notes

We find a third use of the 4-3-chord in a ‘plagal’ context (see Part I p.21). Here once again is John Bacchus Dykes in *Nicea*:



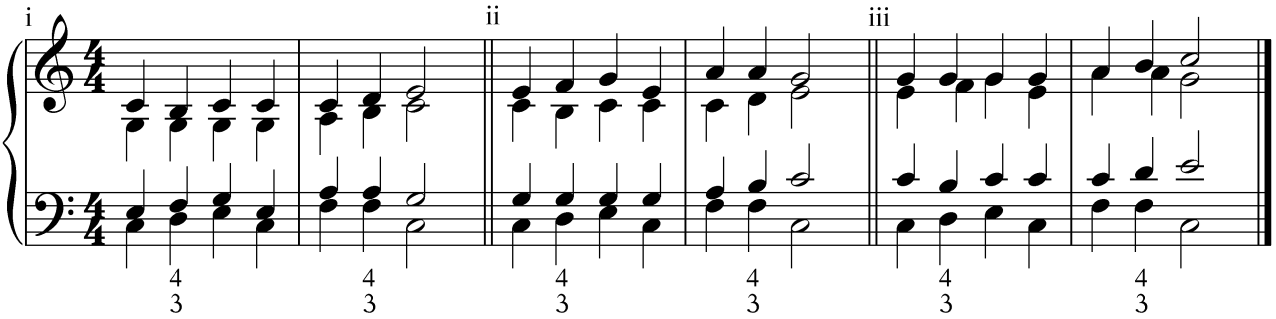
In vertical analysis, this 4-3-chord is the 2nd inversion of the 7-chord on degree VII in the key of D major. Considered horizontally, the alto and tenor move through the whole bar in ascending parallel 3rds above the subdominant in the bass. The bass then moves from IV to I, giving the two bars an unmistakeably plagal effect. Bastiaans (a Dutch organist and pupil of Mendelssohn) wrote the same in his *Verlosser, Vriend, o hoop, o lust* (1852):



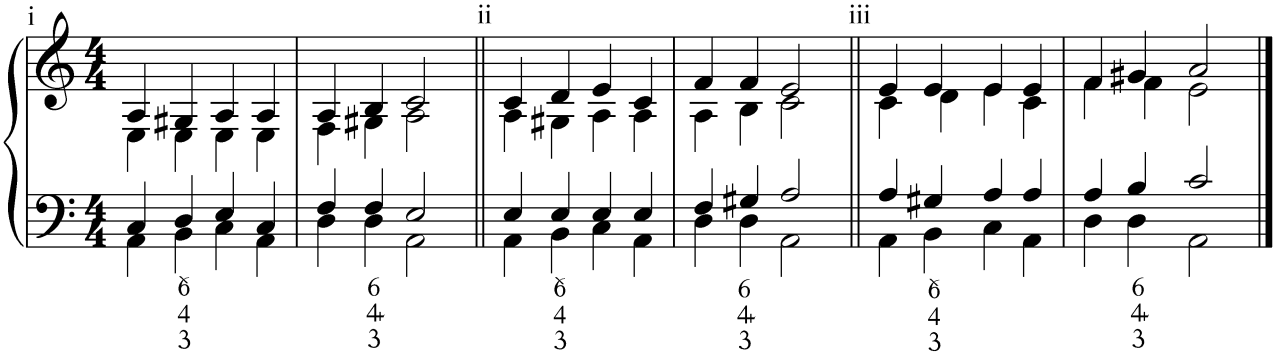
Even in these 19th-century settings, so far removed from Renaissance polyphony, linear forces prevail over ‘vertical’ analysis exclusively in terms of chord inversion.

EXERCISES:

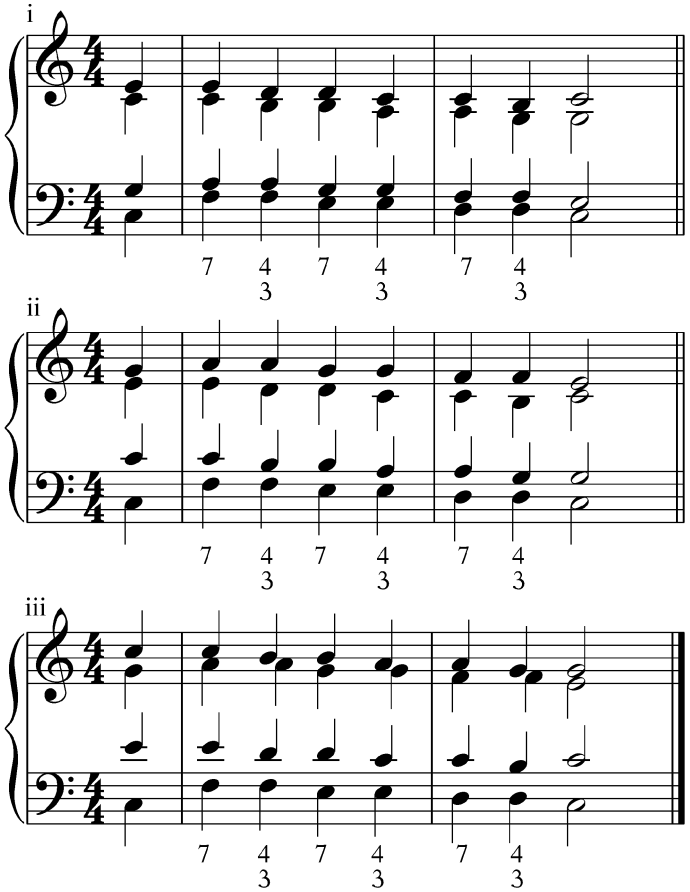
10. Practise the following cadential phrases in all major keys:



11. Repeat these cadential phrases in the minor keys of A, E, B, F sharp, D, G, C and F:

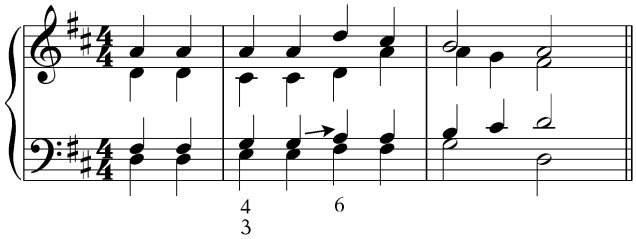


12. Practise the following sequences in all major keys:

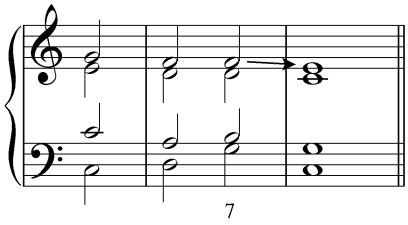


13.* Repeat ex.10, 11 and 12 with a solo stop and pedals.

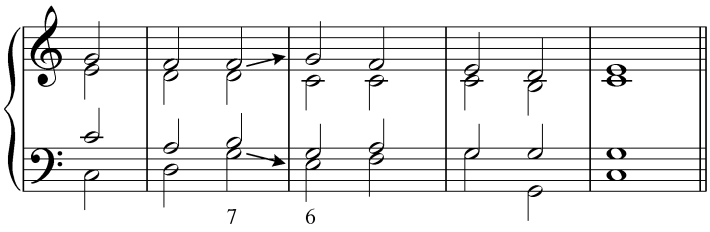
The phenomenon of the ascending 7th, observed on p.113 in Goss's setting of *Praise my soul, the king of heaven*, and also present in ex.10 and 11, deserves special attention:



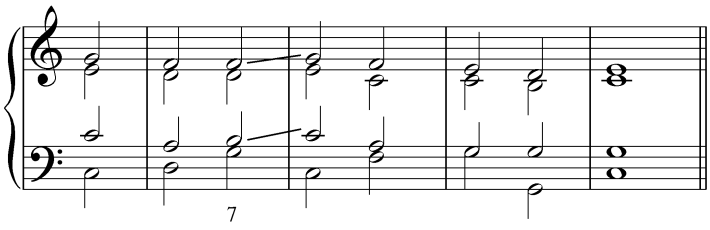
Until this point, we have learnt to resolve dissonances by the downward movement of a major or minor 2nd:



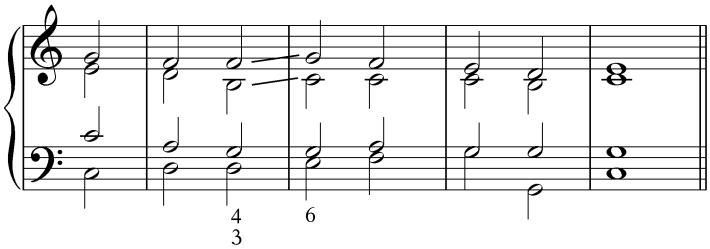
However, in the 7-chord on degree V - the dominant-7-chord - the 7th may resolve upwards if the bass moves to the 1st inversion of the tonic triad rather than to its root position:



As so often, *the proof of the pudding is in the eating*. The progression to the 1st inversion creates onward movement, in which our ear accepts the rising 7th; if this 1st inversion is replaced by the root position, the progression sounds less satisfactory:

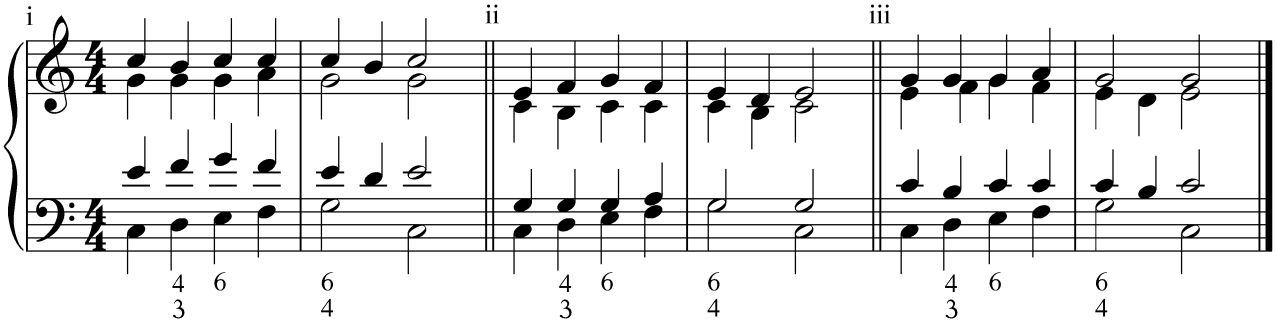


This is not simply due to the fact that the soprano and tenor move from a diminished to a perfect 5th, which in most other situations is ill-advised. This same progression of 5ths occurs in the following option; but as the 7th rises, the tonic triad is again in the 1st inversion and the progression is therefore correct:

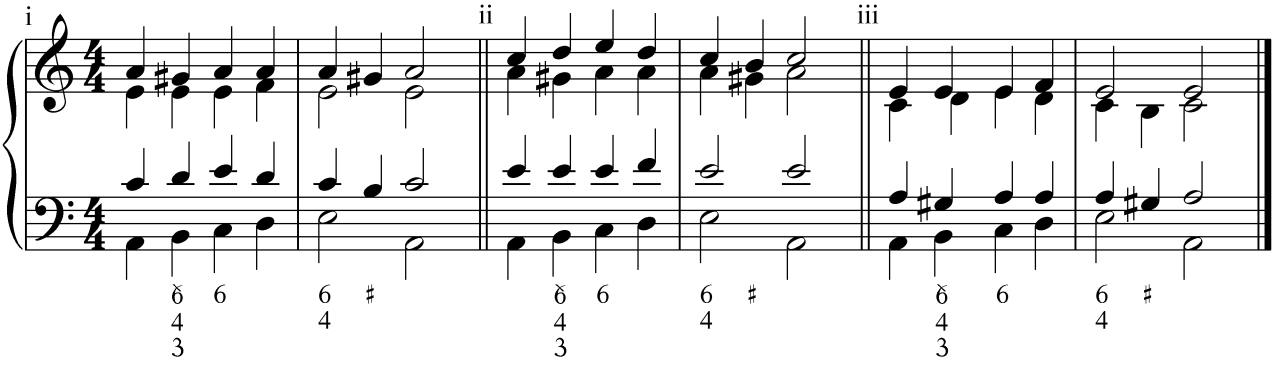


EXERCISES:

14. Practise the following cadential phrases in all major keys:



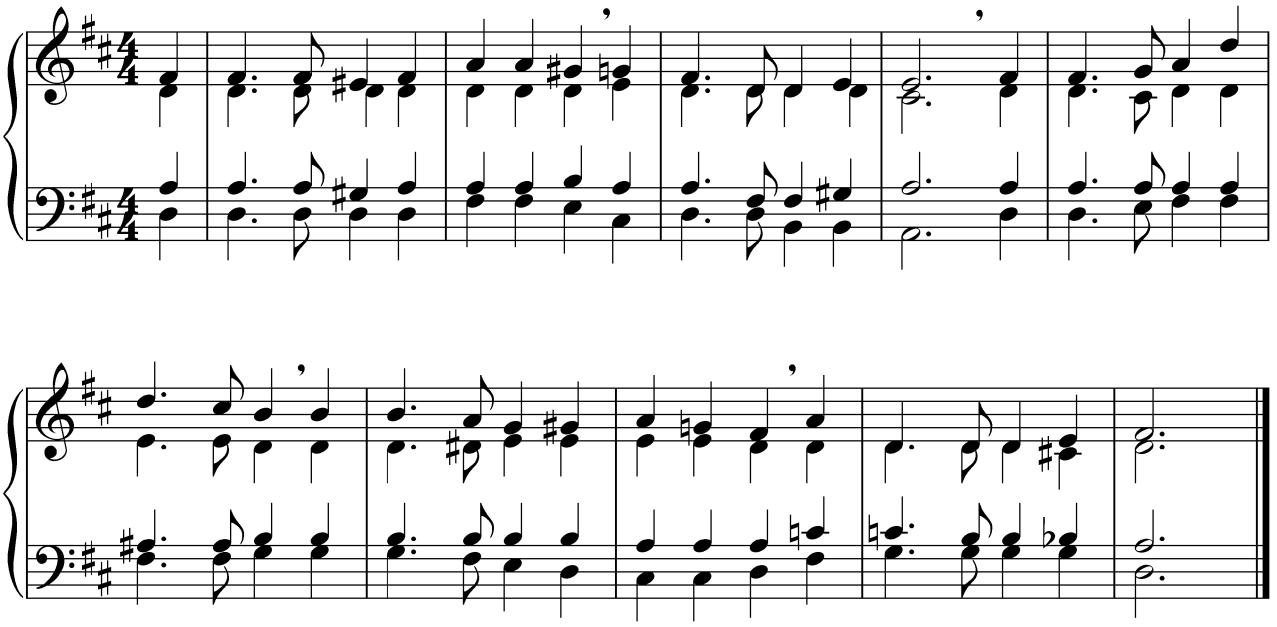
15. Repeat these cadential phrases in the minor keys of A, E, B, F sharp, D, G, C and F:



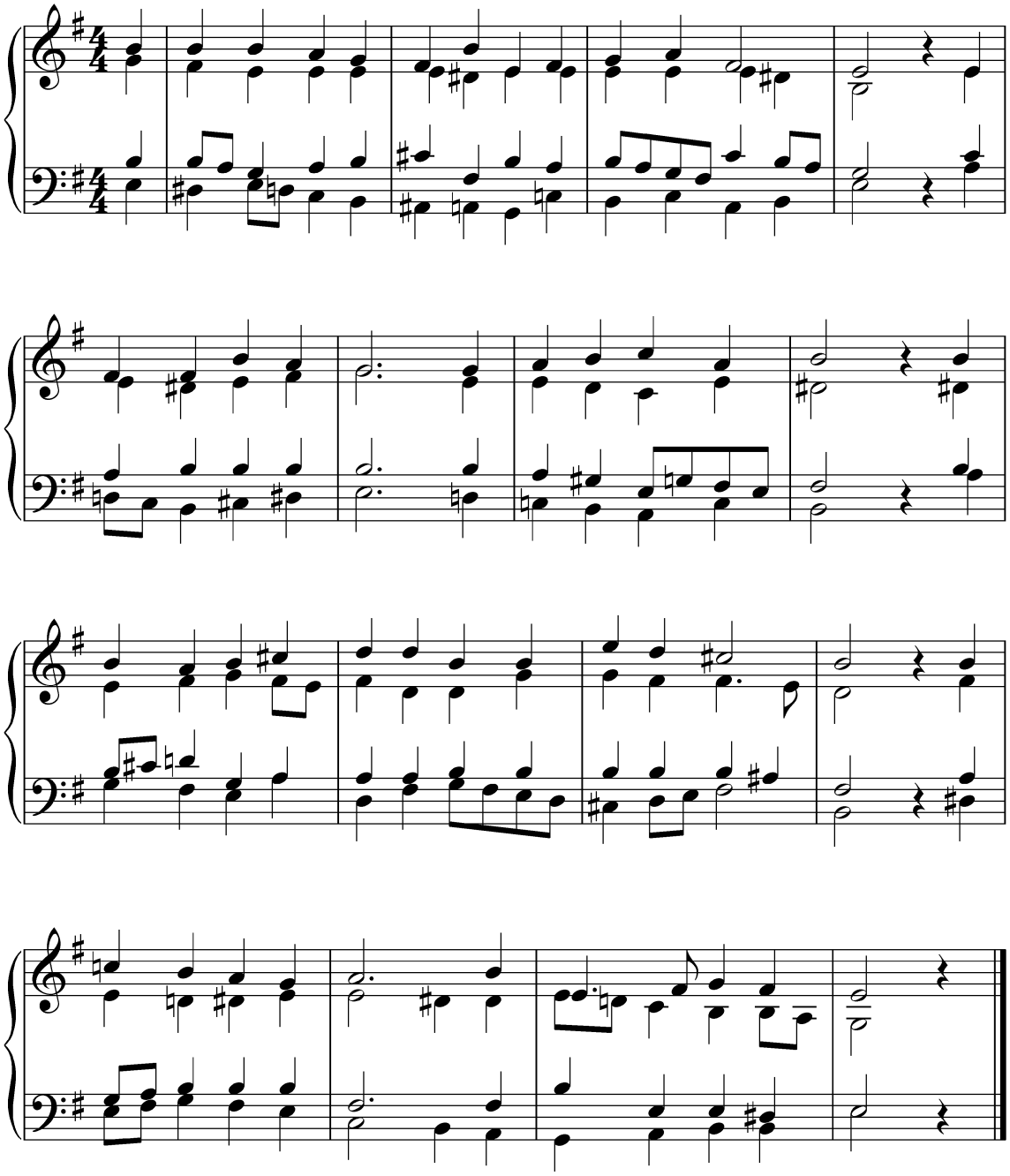
16.* Repeat ex.14 and 15 with a solo stop and pedals.

17. The composers of the following hymns were rather fond of the 7-chord and all its inversions. Play these original harmonisations and try to figure the entire bass part (when in doubt: add up from the bass!).

(a) Frederick Charles Maker: *Rest of Elton* (1887)



(b) Emmanuel Haein: *Nous adorons, Seigneur, prosternés dans ton temple* (1930)



11

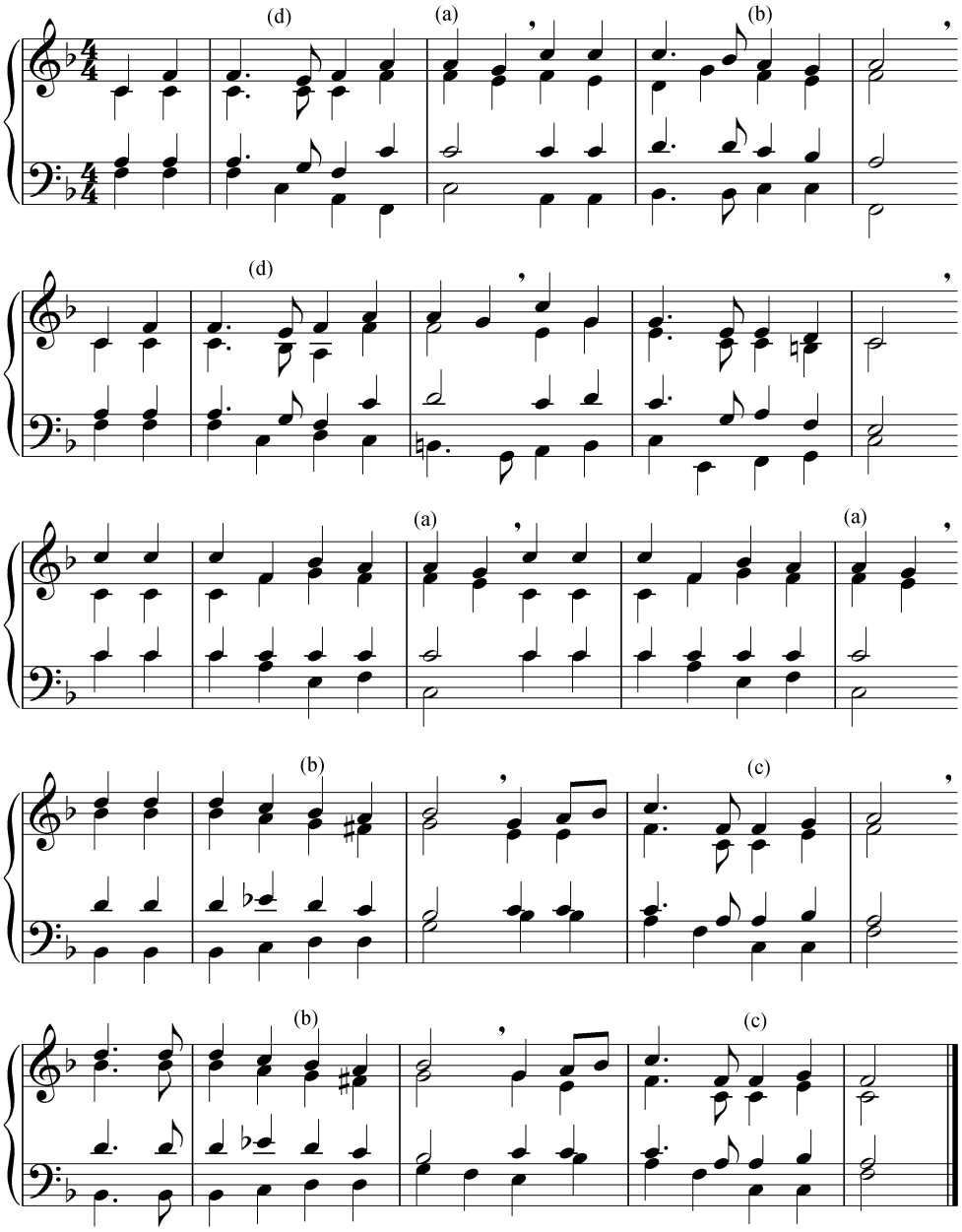
THE SIX-FOUR-CHORD (ii)

The cadential 6-4-chord in hymn tunes
The passing 6-4-chord
The auxiliary 6-4-chord

The cadential 6-4-chord in hymn tunes

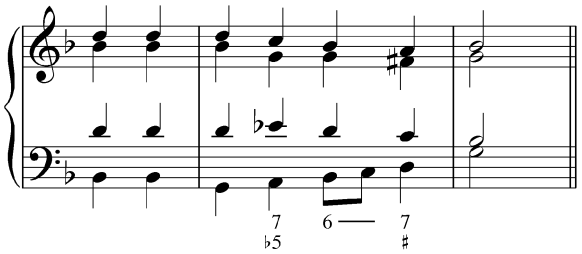
The ‘appoggiatura’ or ‘cadential’ 6-4-chord, discussed in ch.7, is the most frequent application of the 2nd inversion of the triad. In the 18th and 19th centuries, we find hymn tunes in which certain turns of phrase were undoubtedly conceived with the cadential 6-4-chord in mind. So much so, that the 6-4-chord is sometimes the only convincing harmonisation. Let us examine several 19th-century examples.

The melody *Mendelssohn* is an adaptation of a chorus by Felix Mendelssohn-Bartholdy, in which his chord progressions are not essentially altered. The harmonisation dates from the first half of the 19th century, the early romantic period:

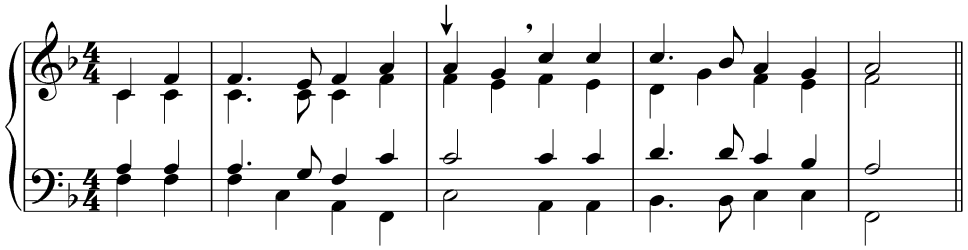


- (a) is an imperfect cadence (I-V) with the cadential 6-4-chord;
- (b) is a perfect cadence (V-I) with the cadential 6-4-chord. The bass of the 6-4-chord is doubled in the tenor, after which the tenor moves to the 7th above the dominant, resolving to the 3rd of the tonic triad (doubled in the soprano);
- the 6-4-chord at (c) deviates in that the 4th and 6th 'resolve' upwards. Here again, many more rules would be required to clarify the exceptions: see also (d), where the 6-4-chord on the 2nd beat sounds briefly as an appoggiatura, but not in the context of a cadence.

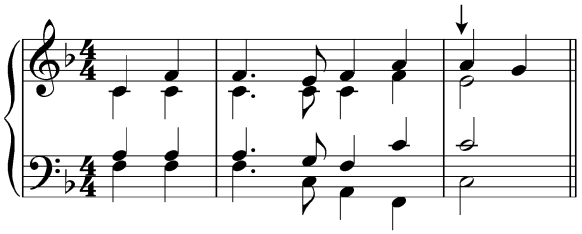
In Mendelssohn's setting, the cadential 6-4-chords at (a) and (b) have in common that the 'appoggiatura' from the 6th to the 5th is in the upper part. It is precisely this melodic turn of phrase that so often requires the 6-4-chord (or perhaps one should say that this turn of phrase arose from the 6-4-chord!). At (b) in the last two lines, alternatives could be found:



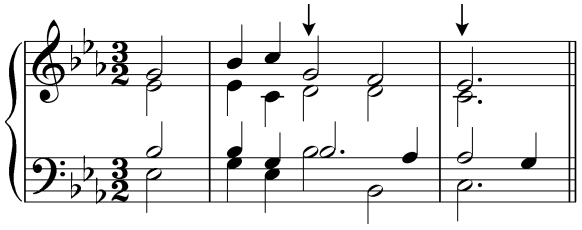
but at (a) it must surely be that Mendelssohn conceived the melody in relation to the imperfect cadence and the cadential 6-4-chord:



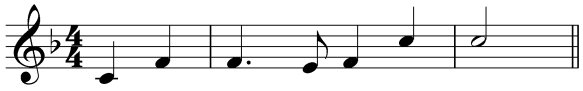
Why is the 6-4-chord indispensable at this point? Firstly, because the first phrase begins and the second phrase ends on the tonic; midway, at the end of the first phrase, there is hardly a good alternative for the dominant. Secondly, above the dominant - the bass C - we experience the melody note A on the strong beat as an appoggiatura 'resolving' to the dominant triad.
A century or two earlier, the 6-chord would have done sufficient justice to the expression of the appoggiatura :



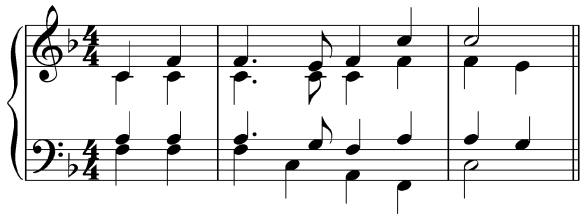
In a 19th-century context, the appoggiatura thus harmonised may have sounded anachronistic to some, but here we must tread carefully. The 20th-century composer John Ireland for one might well have appreciated all that has been said about the 6th as an appoggiatura, as his *Love unknown* testifies:



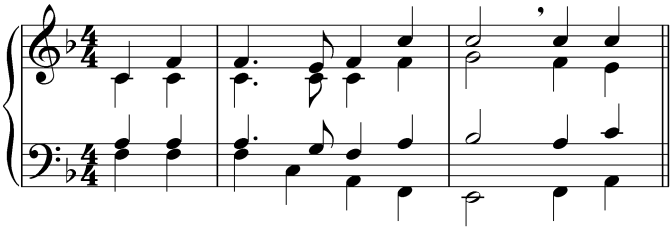
Leaving this aside, if Mendelssohn's melody had taken a different turn, without an appoggiatura from the 6th to the 5th in the given soprano:



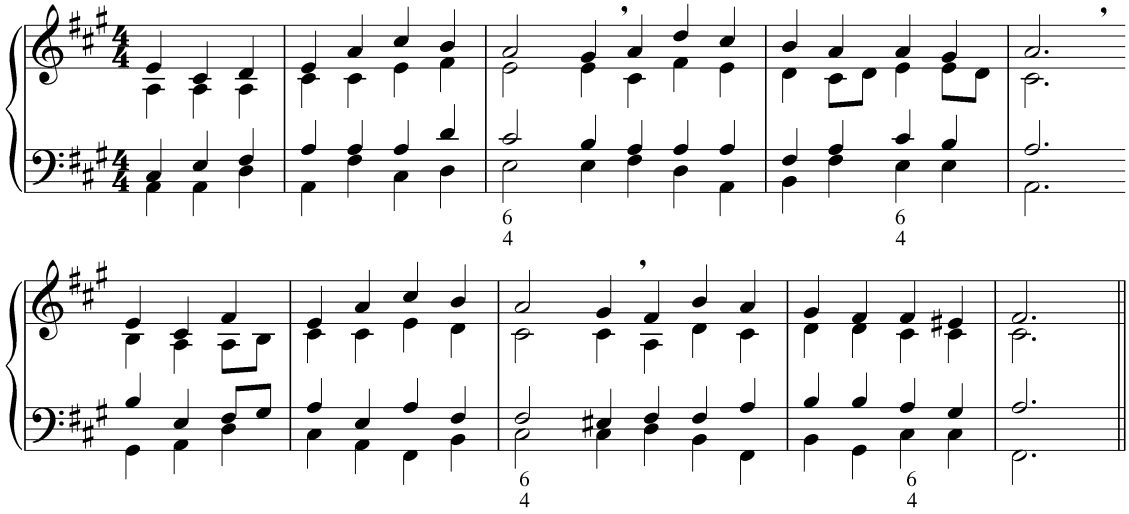
we could either retain the cadential 6-4-chord:



or simply do away with it:

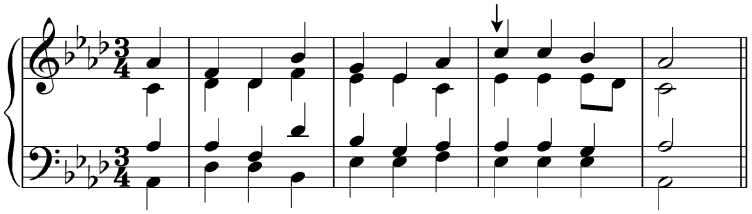


If we turn to Johannes Gijsbertus Bastiaans's *Straks groeten w'onze moederstranden* (1868), it is tempting to think that he inherited his preference for the cadential 6-4-chord from his teacher Mendelssohn:

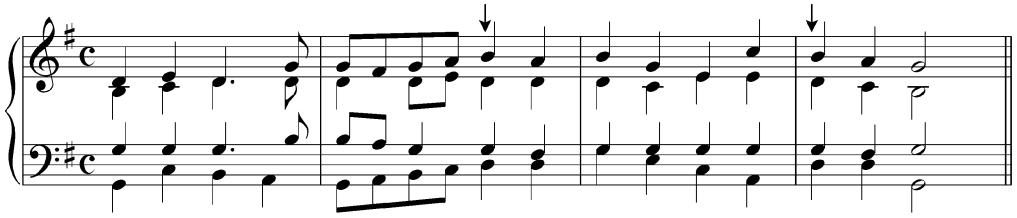


But we know from many other 19th-century harmonisations that this was a widespread characteristic of the romantic style.

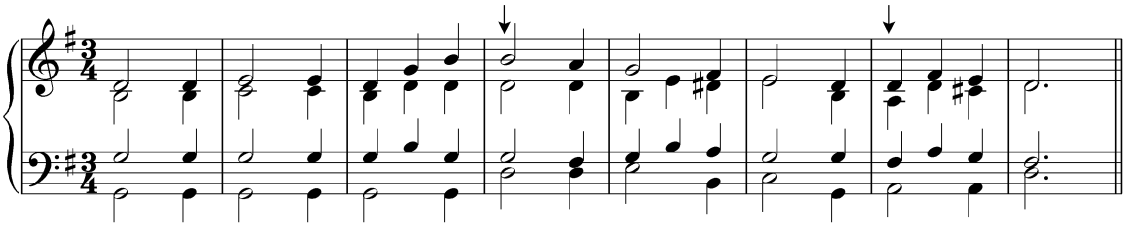
Finally, for Welsh devotees of the 6-4-chord, here are the openings of three favourite hymns in which, at the points indicated, they would surely be upset to hear an alternative harmonisation! The first is *St Denio*, an adaptation of a Welsh song:



The second is *Cwm Rhondda* by John Hughes (1873-1932), probably written in 1907:



And the third is *Blaenwern*, written just two or three years earlier by William Rowlands:



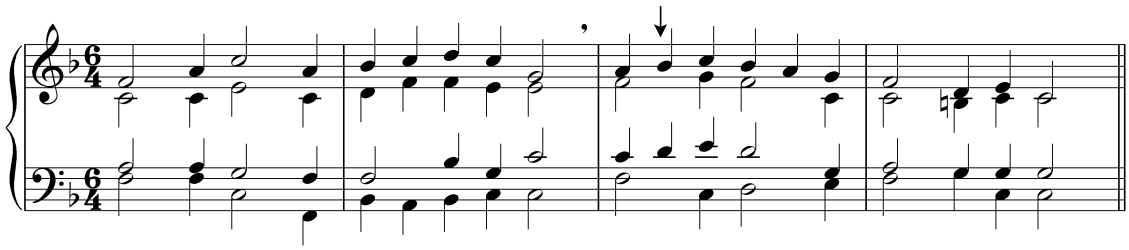
It cannot be denied that those of us who were brought up with the hymns and chorales of the church have a memory bank of harmonisations that we can hardly escape from. Is this the reason why we expect to hear the 6-4-chord at particular points in the hymns quoted in this chapter? Only partly, for as mentioned above, there is a better reason, since the composers of these melodies surely assumed that the 6-4-chord would be used at these points, whether they wrote the setting themselves or not. We must respect their wishes, not simply out of loyalty, but because their melodies often allow no convincing alternative.

As the examples illustrate, the 6-4-chord is employed only in specific situations. Unlike the 1st inversion, the 2nd inversion is not more or less interchangeable with the triad in root position. The particular tension (or perhaps *instability) of* the 2nd inversion does not allow us to do so.

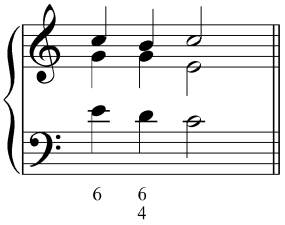
In addition to the cadential 6-4-chord, two important though somewhat less frequent applications are the **passing 6-4-chord** and the **auxiliary 6-4-chord**.

The passing 6-4-chord

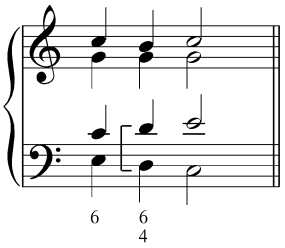
As the name suggests, the passing 6-4-chord is related to passing notes. In an early example dating from 1609, from Michael Praetorius's setting of the medieval *Quem pastores laudavere*, the 4th and 6th arise through linear movement of parallel passing notes:



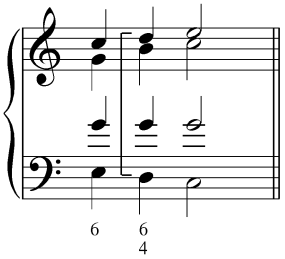
The 6-4-chord occurs between two different triads (F and C), above a leap of a 4th in the bass. Later, the name passing 6-4-chord came to be associated with a passing note in the bass, and the chord occurs mainly between the 1st inversion and root position (in either order) of one and the same triad, with stepwise movement in the bass:



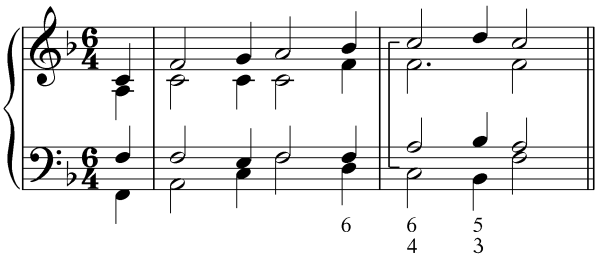
In four-part writing the bass is doubled, as in the cadential 6-4-chord:



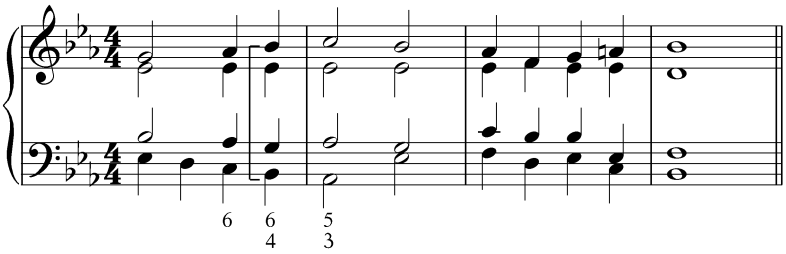
This doubling often occurs in the soprano, which consequently moves stepwise in contrary motion to the bass:



We find an example at the beginning of Johann Christoph Blumhardt's setting of *Die du ohn' Trost und Retter* (1877); the composer employs mixed and open spacing:



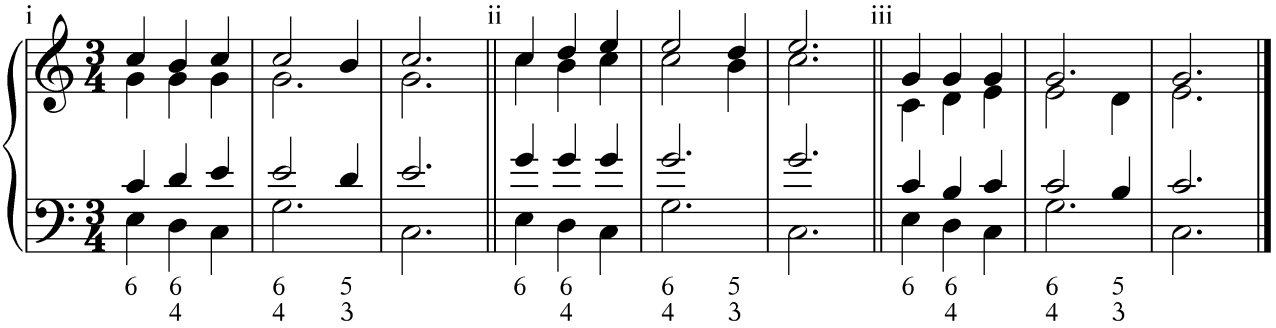
The second phrase of Monk's *Eventide* is as follows (similarly in open spacing):



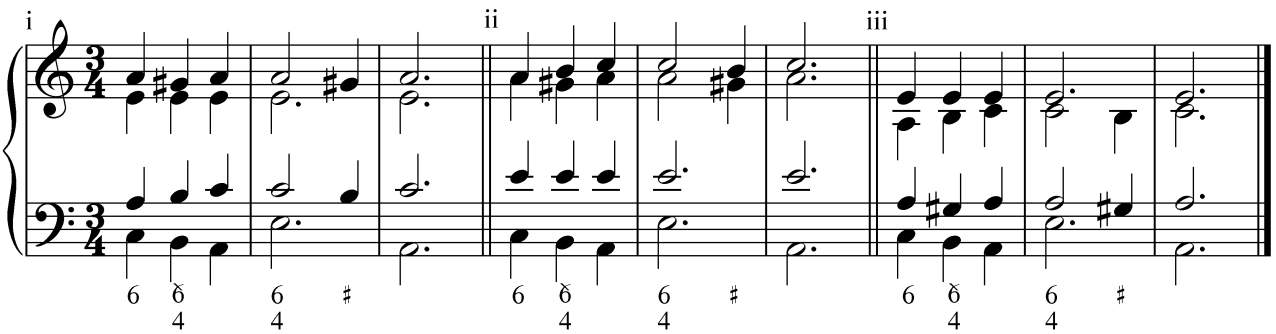
From the above examples we may conclude that the passing 6-4-chord
- occurs above a passing note in the bass, on a relatively weak part of the bar;
- occurs between the 1st inversion and root position (in either order) of the same triad;
- is characterised by stepwise movement;
- does not require a 'resolution', unlike the cadential 6-4-chord.

EXERCISES:

1. Practise the following cadential phrases in all major keys:



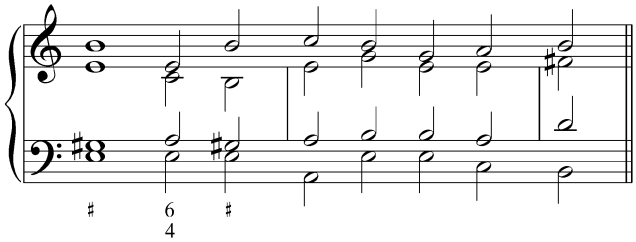
2. Practise the following cadential phrases in all minor keys:



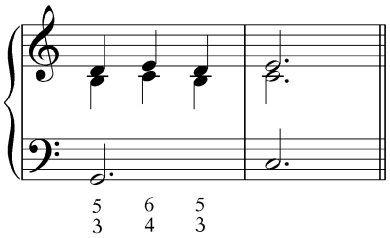
3.* Repeat ex.1 and 2 with a solo stop and pedals.

The auxiliary 6-4-chord

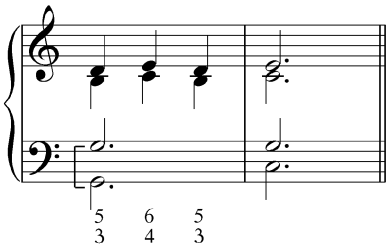
At the beginning of ch.7 we examined the final cadence of Michael Praetorius's *Aus tiefer Not* (1609). The 6-4-chord occurs at two other points in the same setting, including the very beginning:



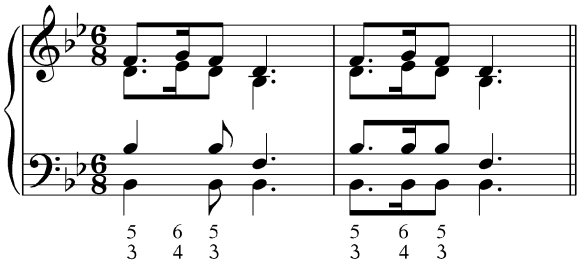
Here we see an auxiliary 6-4-chord before the term was invented. It arises through linear movement, the tenor moving stepwise up and down via the auxiliary note A, partly in parallel movement with the alto.
In later periods, the auxiliary 6-4-chord was the product of parallel auxiliary notes in two voices:



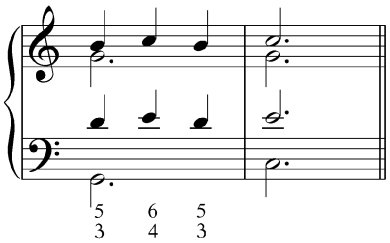
In four-part writing the bass is once again doubled:



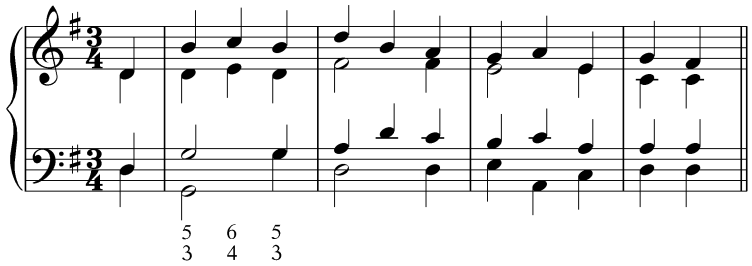
which brings us into the Christmas season (the parallel 3rds in many later settings of *Silent night* also occur in Franz Gruber's original version, dating from 1818 or later):



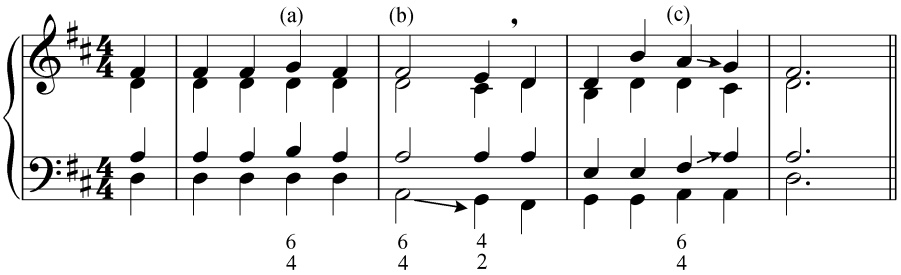
The following position:



recalls Clement Cotterill Scholefield's *St Clement*:



In the first line alone of Samuel Sebastian Wesley's *Aurelia* we find no less than three 6-4-chords:



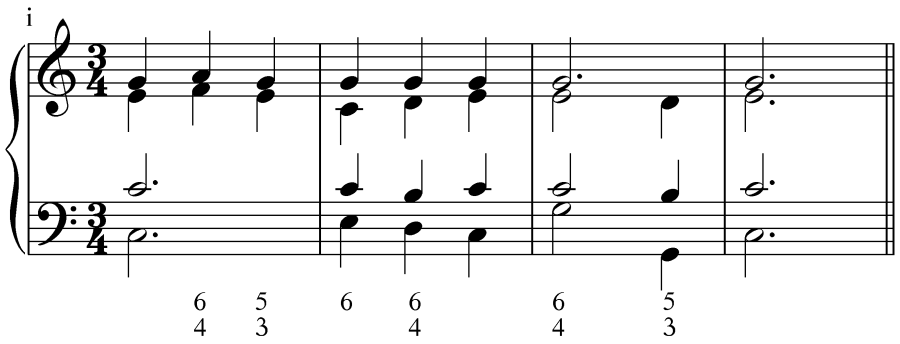
The auxiliary 6-4-chord at (a) is followed by cadential 6-4-chords at (b) and (c). The imperfect cadence at (b) has a strong forward movement because the bass, rather than remaining on A, moves to the G of the dominant 7-chord in the 3rd inversion. At (c) Wesley does something similar in the soprano, while the tenor moves up instead of down.

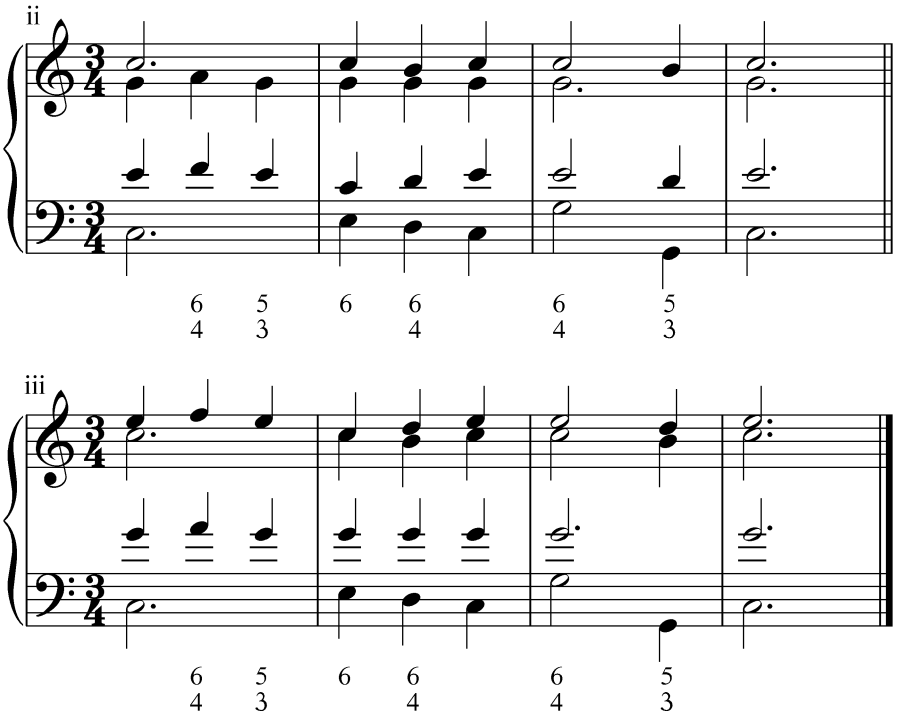
From the above examples we may conclude that the auxiliary 6-4-chord
- occurs above a common bass note, often on a relatively weak part of the bar;
- is 'resolved' by returning to the triad that preceded it;
- is characterised by stepwise movement.

Much more than in hymns and chorales of earlier periods, these romantic melodies seem to be identified with certain harmonic progressions. At certain points an alternative harmonisation is almost inconceivable. As with the cadential 6-4-chord, this is particularly the case if the 4th or 6th of the auxiliary 6-4-chord is in a given upper part, lending the melody its particular form.

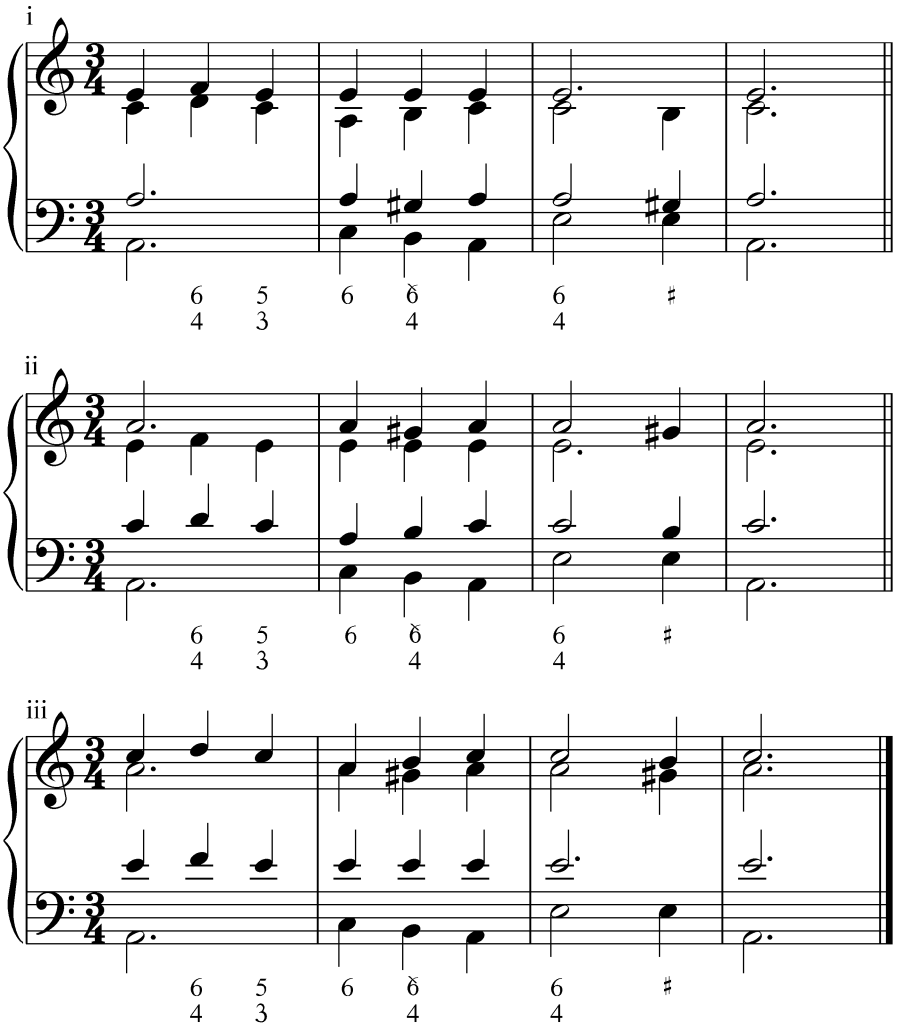
EXERCISES:

4. Practise the following cadential phrases in all major keys:





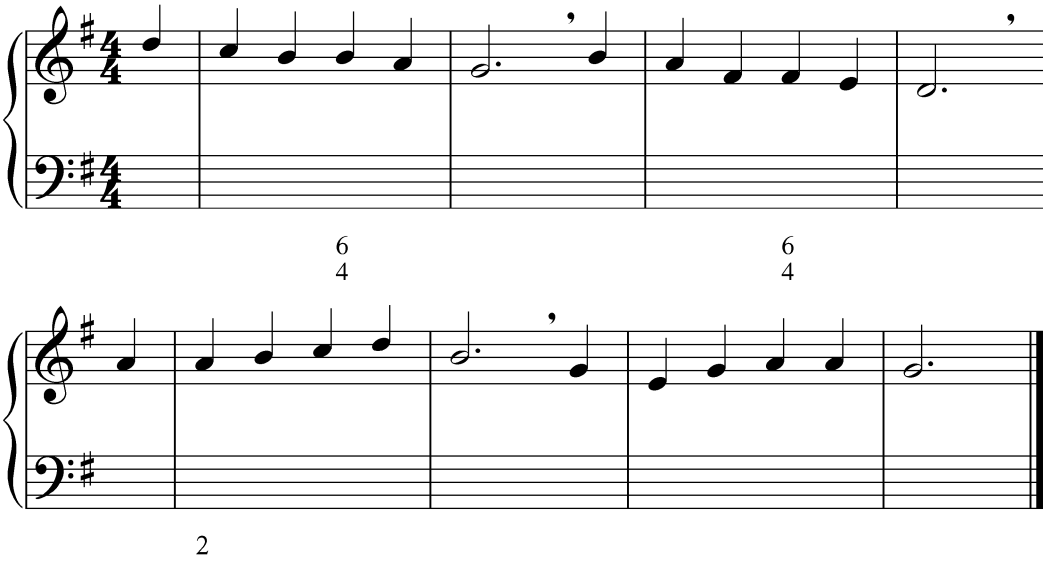
5. Practise the following cadential phrases in all minor keys:



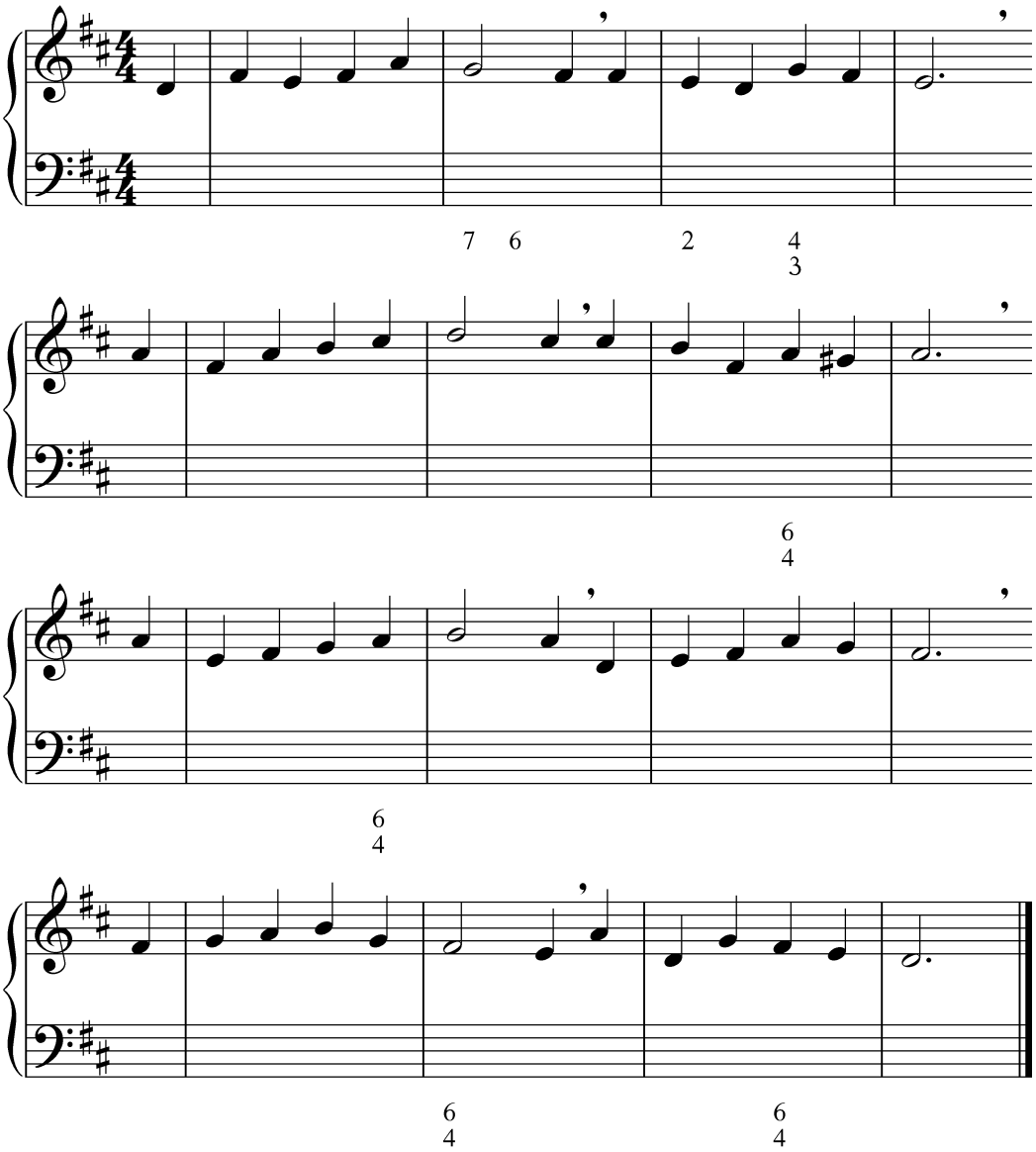
6.* Repeat ex.4 and 5 with a solo stop and pedals.

7. Write a bass to the following hymns and chorales and practise in four parts. At certain points the figured bass is already given.

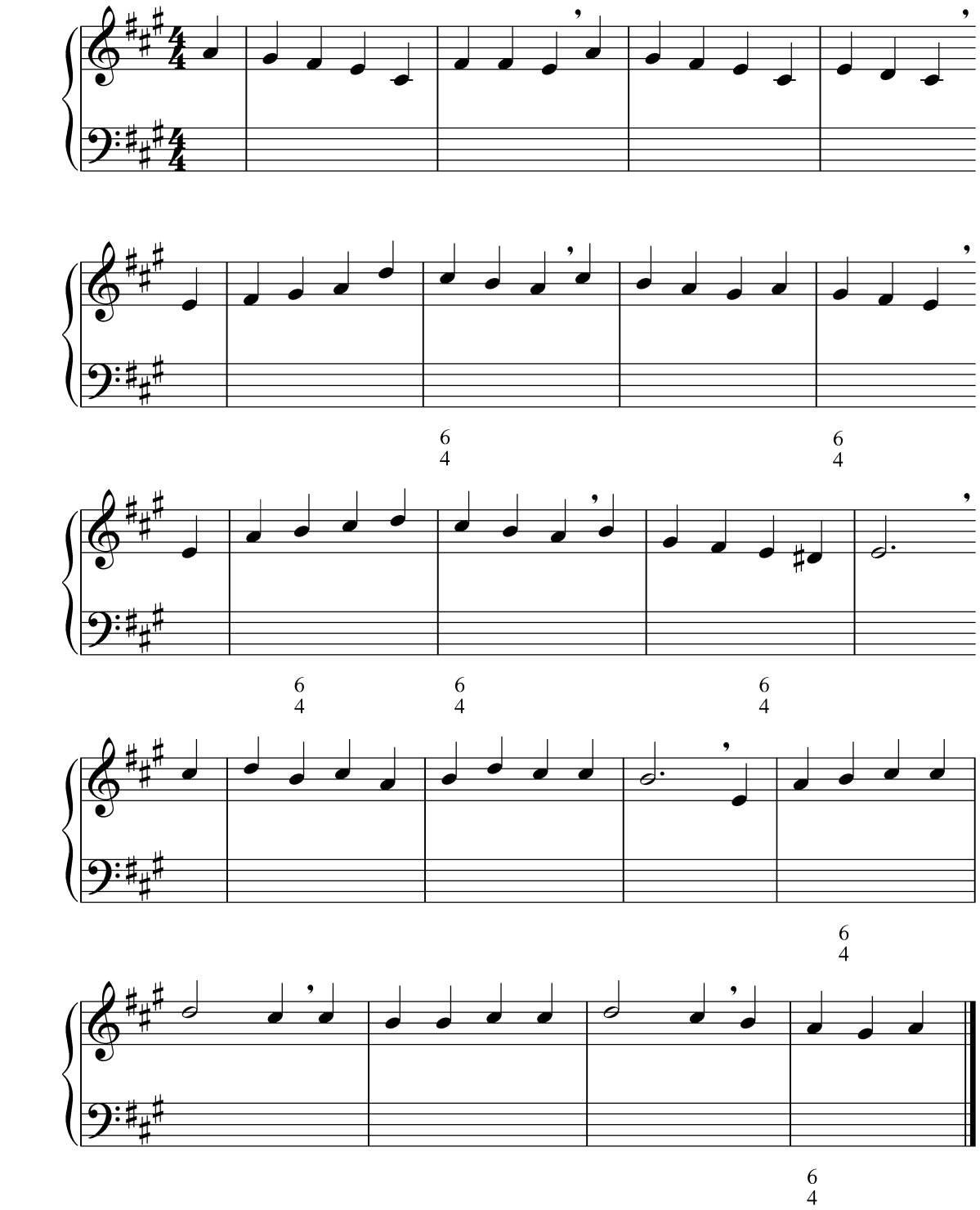
(a) *St Cecilia*



(b) *Befiehl du deine Wege*

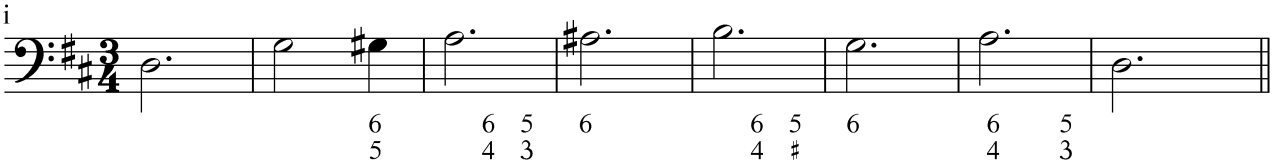


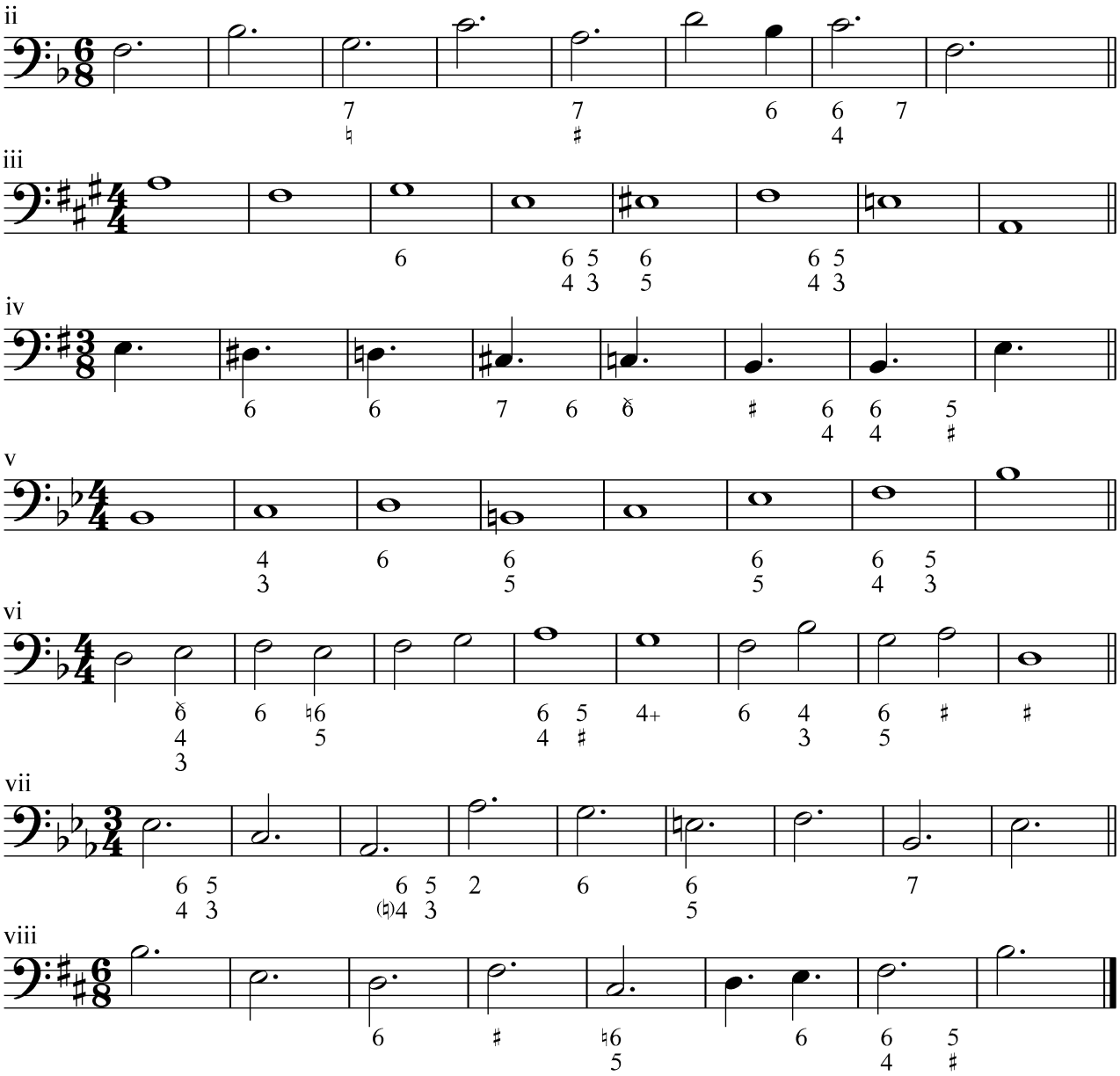
(c) *Verlosser, Vriend, o hoop, o lust*



8. Practise the following transpositions: *St Cecilia* in F and B flat major; *Befiehl du deine Wege* in E flat and B flat major; *Verlosser, Vriend* in G and C major.

9. Improvise two-part inventions based on the following schemes. A third part may be added to the 6-4-chords in order to highlight them.



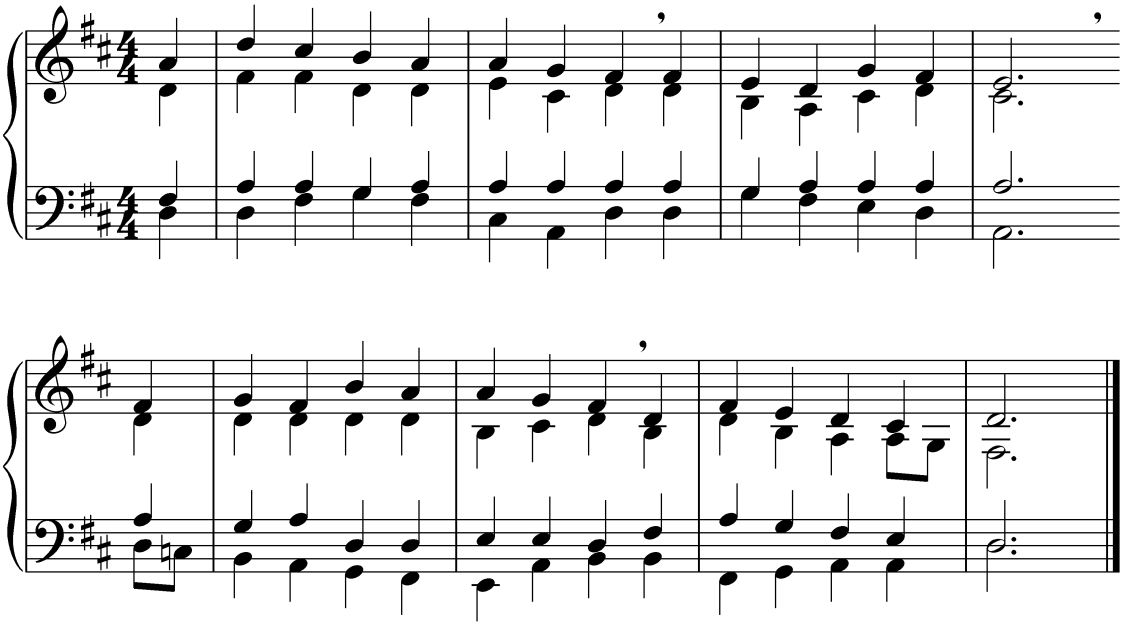


10. Improvise two-part inventions of eight bars, modulating according to the following key schemes (major keys in capitals, minor keys in small letters):

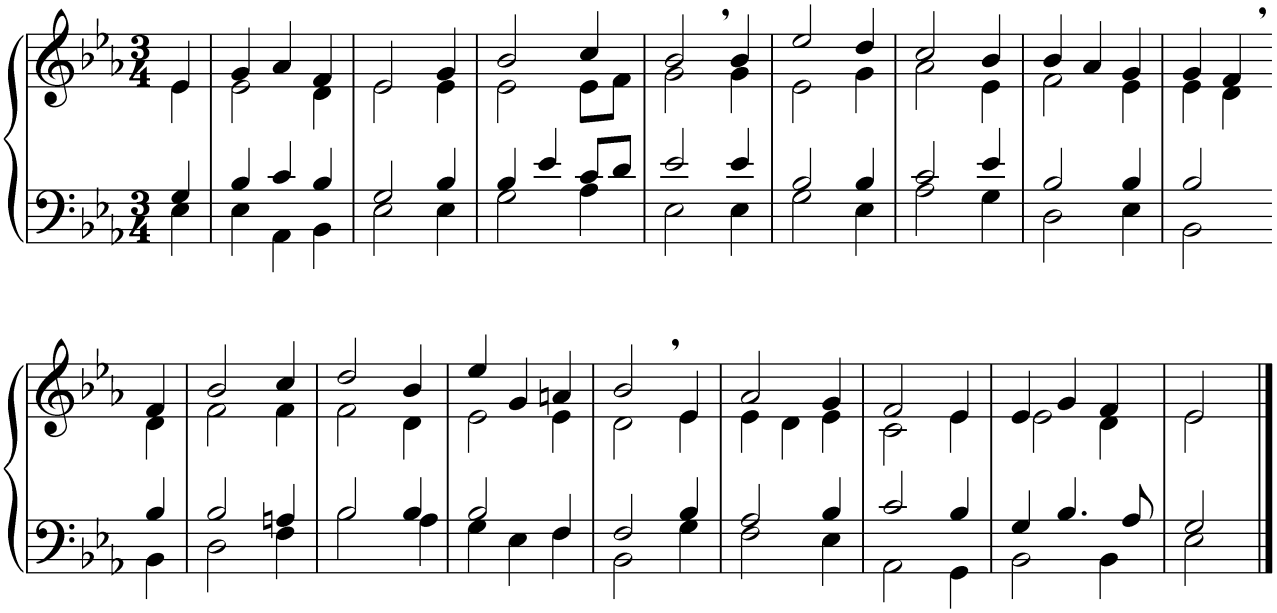
i	D	-	A	-	D
ii	F	-	C	-	F
iii	a	-	C	-	a
iv	C	-	a	-	C
v	b	-	f sharp	-	b
vi	G	-	C	-	G
vii	B flat	-	g	-	B flat
viii	g	-	B flat	-	g
ix	A	-	D	-	A
x	E flat	-	B flat	-	E flat

11. Play the following harmonisations and add figured basses:

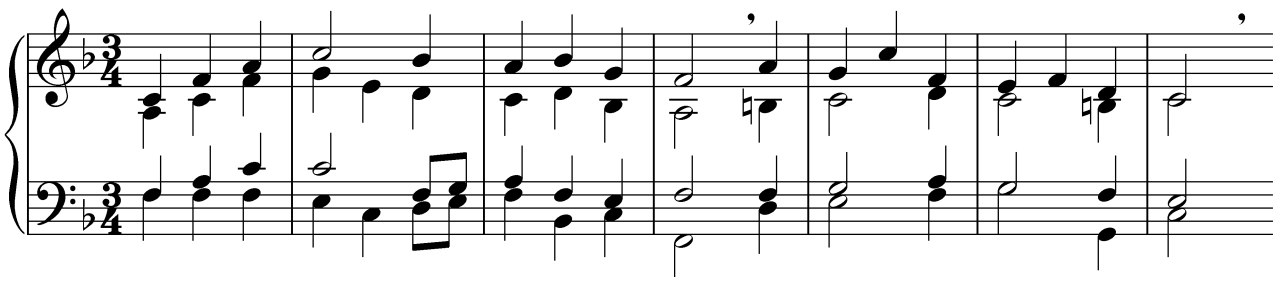
(a) Alexander Robert Reinagle (1799-1877): *St Peter*

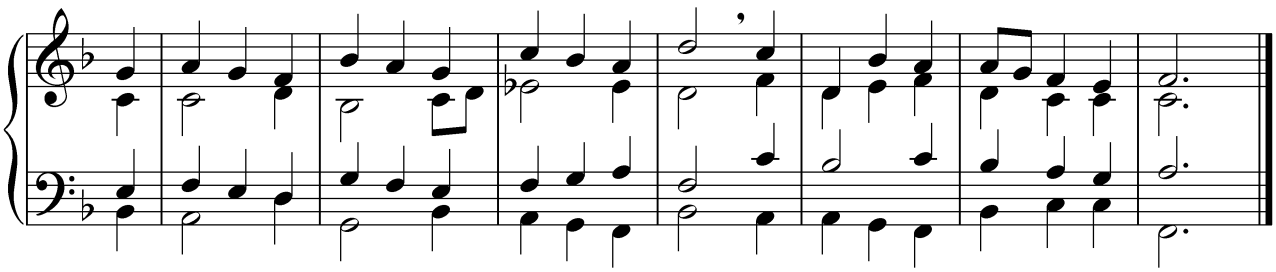


(b) Edward Miller (1731-1807): *When I survey the wondrous cross*

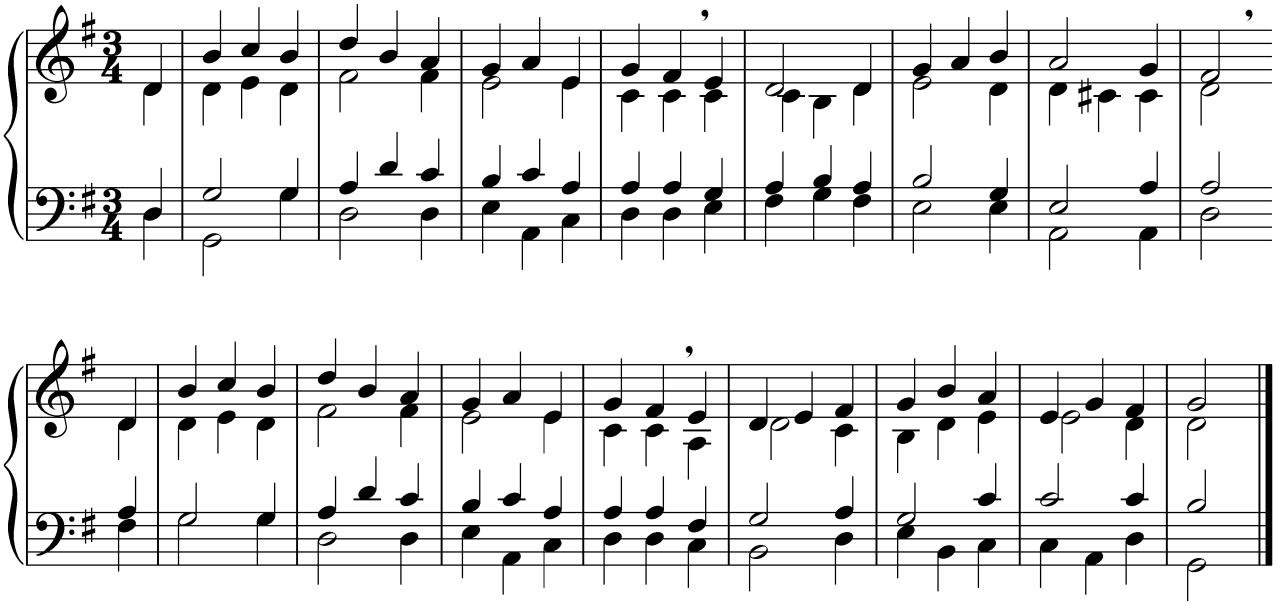


(c) Thomas Haweis (1734-1820) / Samuel Webbe (1770-1843): *Richmond*

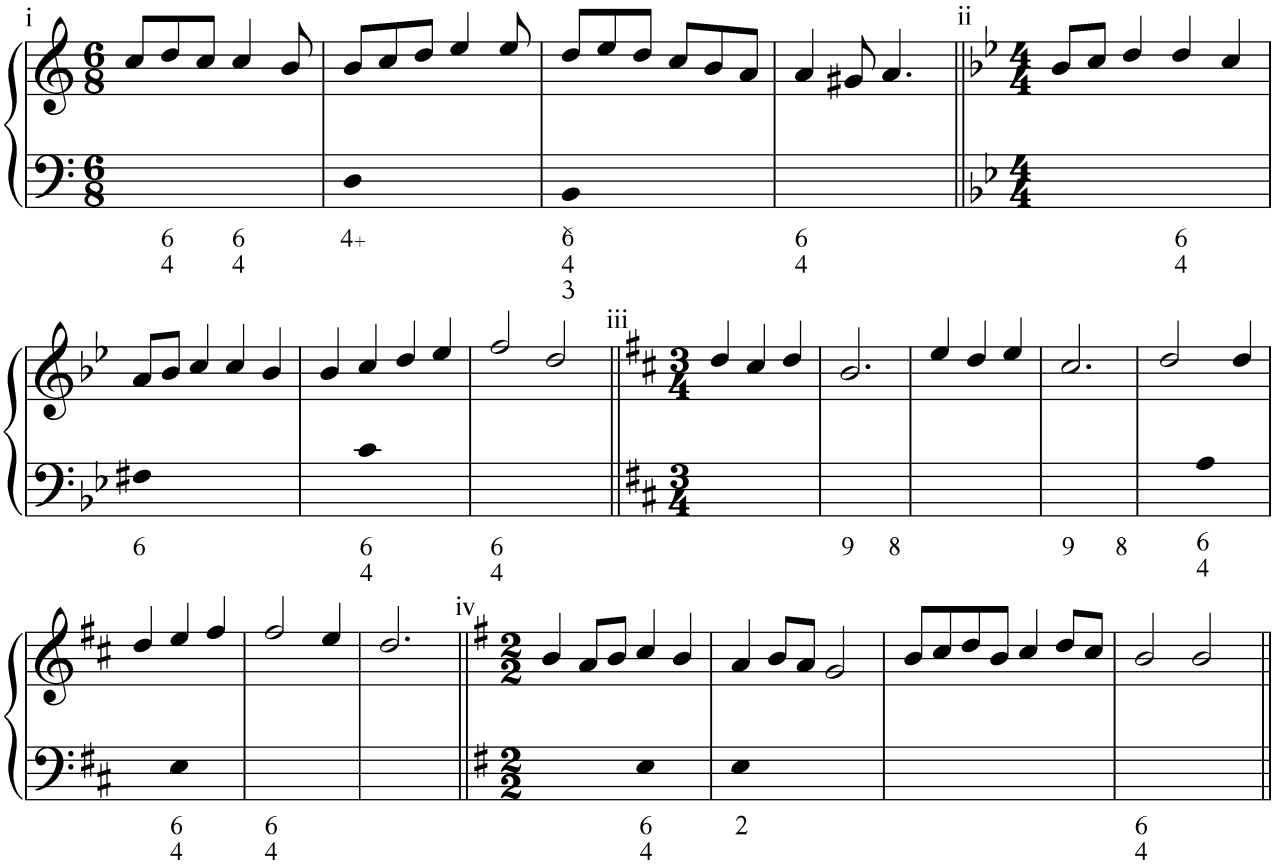


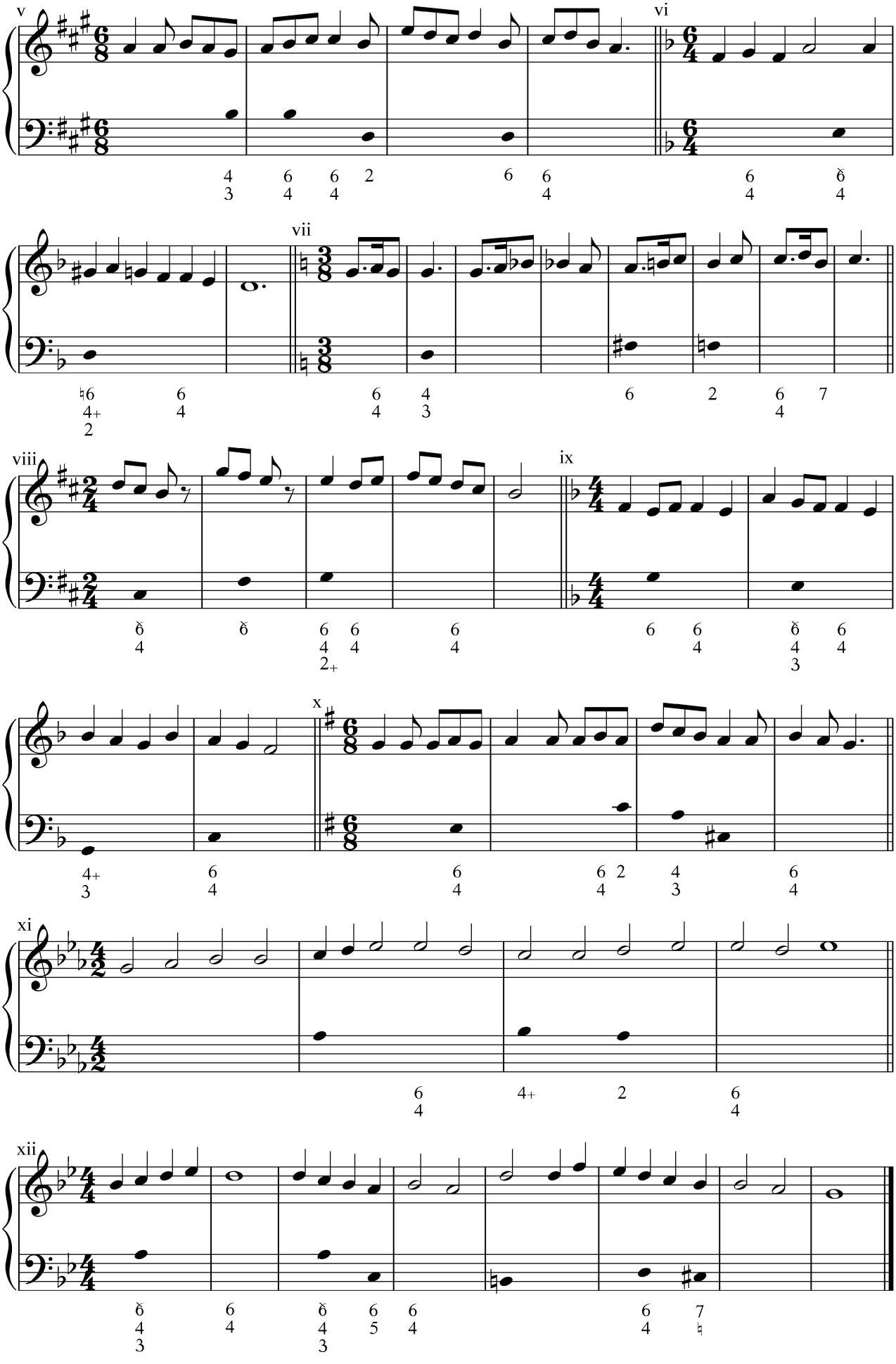


(d) Clement Cotterill Scholefield (1839-1904): *St Clement*

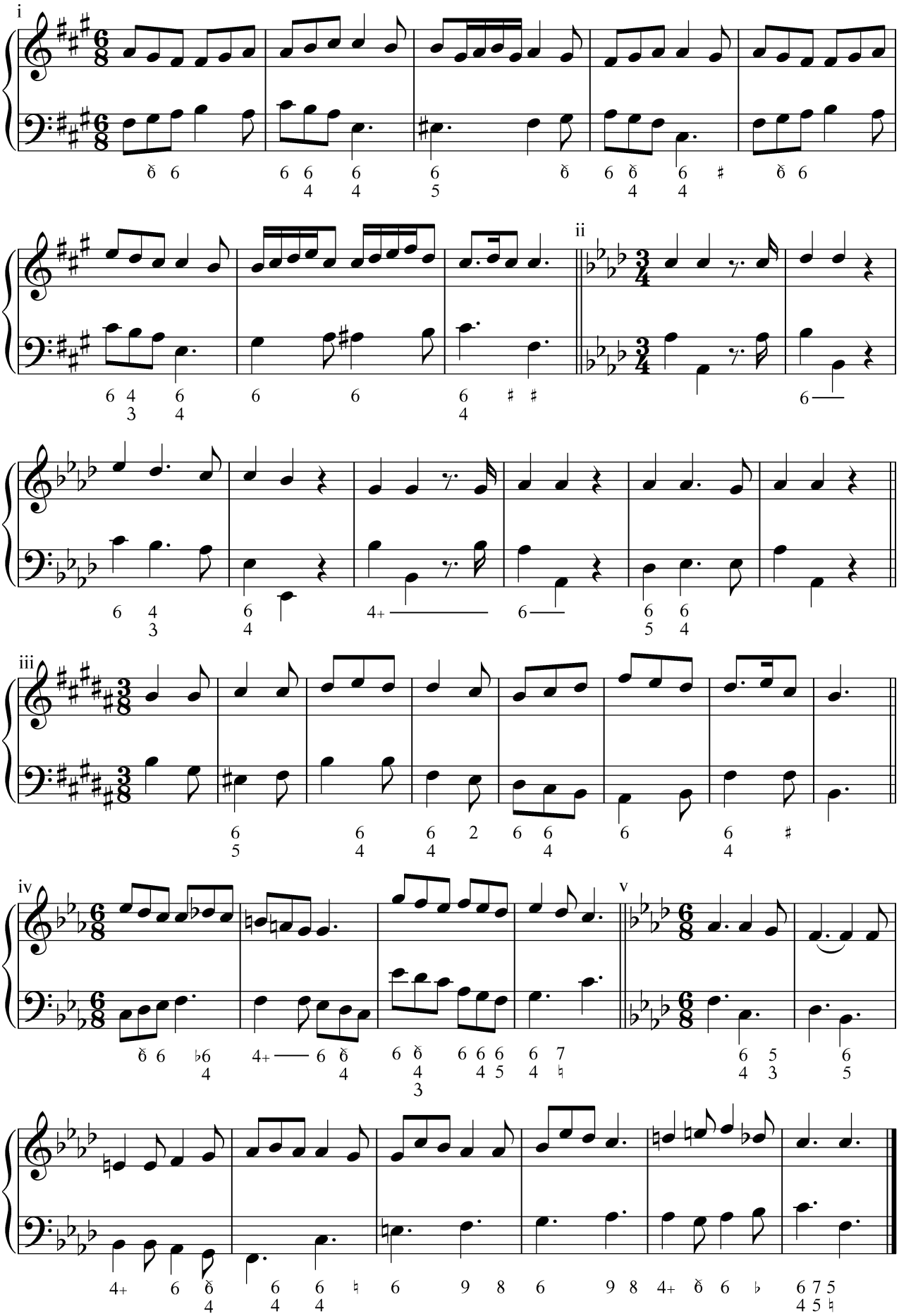


12. Write a bass to the following melodies and practise in four parts. Some of the figured bass is already given.

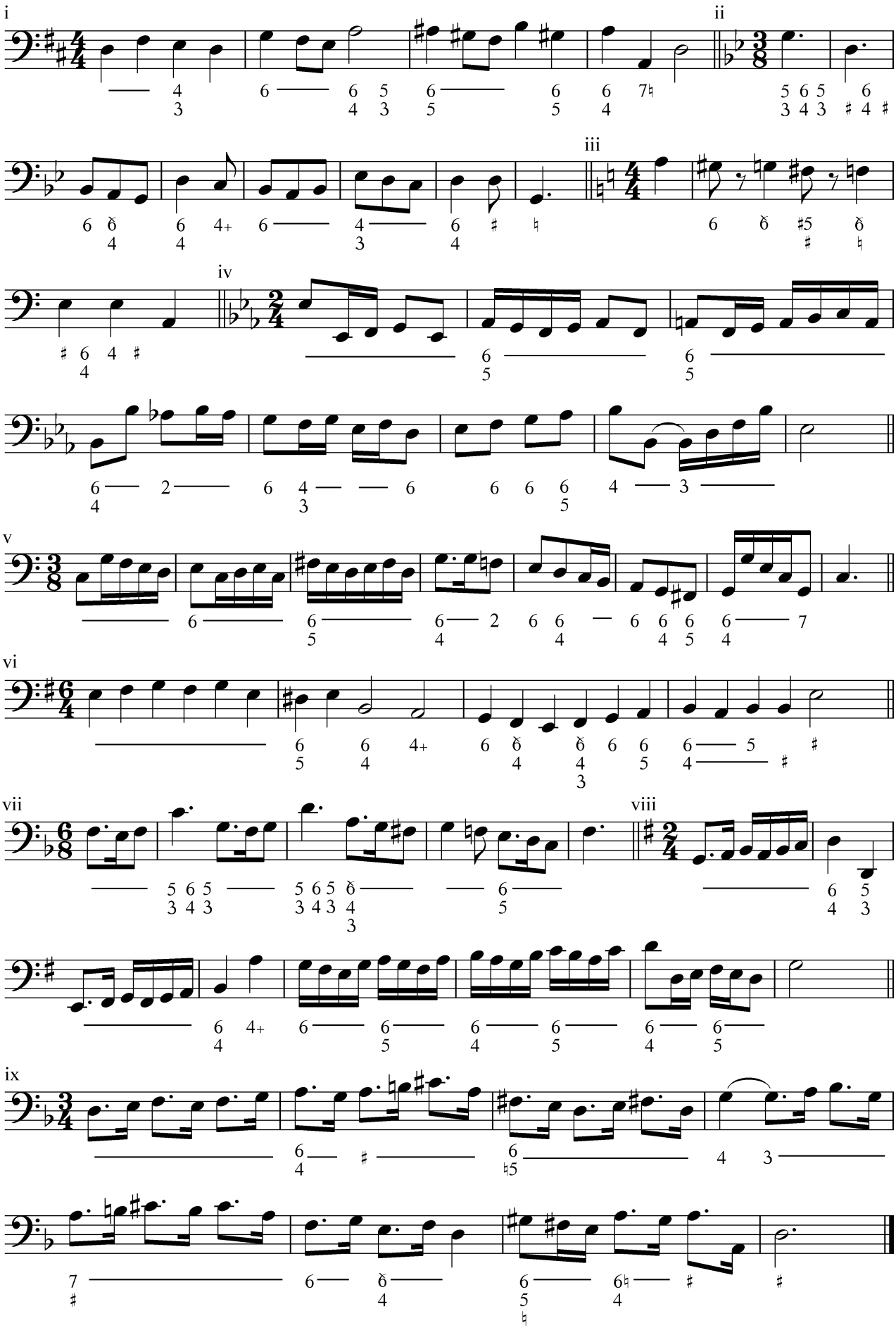



v
vi
vii
viii
ix
x
xi
xii

[13]. Practise the following exercises in four parts:



14. Harmonise the following figured basses in four parts in different positions:



12

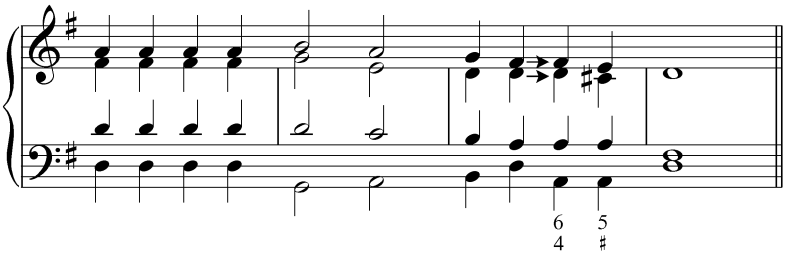
FIGURATION (iii)

The unprepared appoggiatura
Multiple appoggiaturas

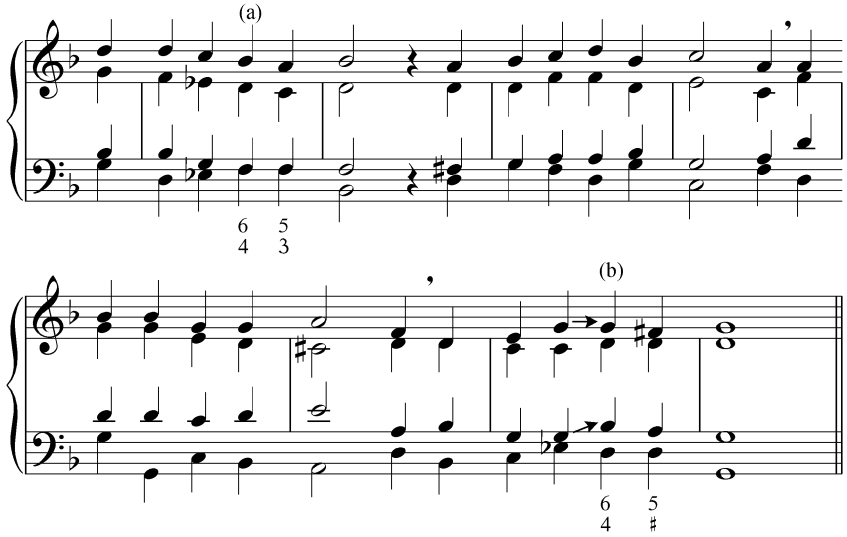
Dissonances in music are like herbs and spices in our food. From mild to sharp, they add something essential, even though we may tend to differ on the taste.
Up until this point, we have observed the rule that dissonances or appoggiaturas should be prepared in the preceding chord. In this chapter the **unprepared appoggiatura** will be discussed. When more than one appoggiatura occurs simultaneously, there is mention of **multiple appoggiaturas**. Since both phenomena are scarce in hymns and chorales, some of the examples in this chapter are taken from other sources. Both types of appoggiatura are of importance for our understanding of harmonisation and figured bass.

The unprepared appoggiatura

The classical rules for the preparation and resolution of dissonances are rooted in the polyphony of the Renaissance. Because the perfect 4th above the bass was considered a dissonance, in the cadential 6-4-chord too the 4th was always prepared. In his setting of *O wir armen Sünder* (1609), already quoted elsewhere, Michael Praetorius prepares both the 6th and the 4th:

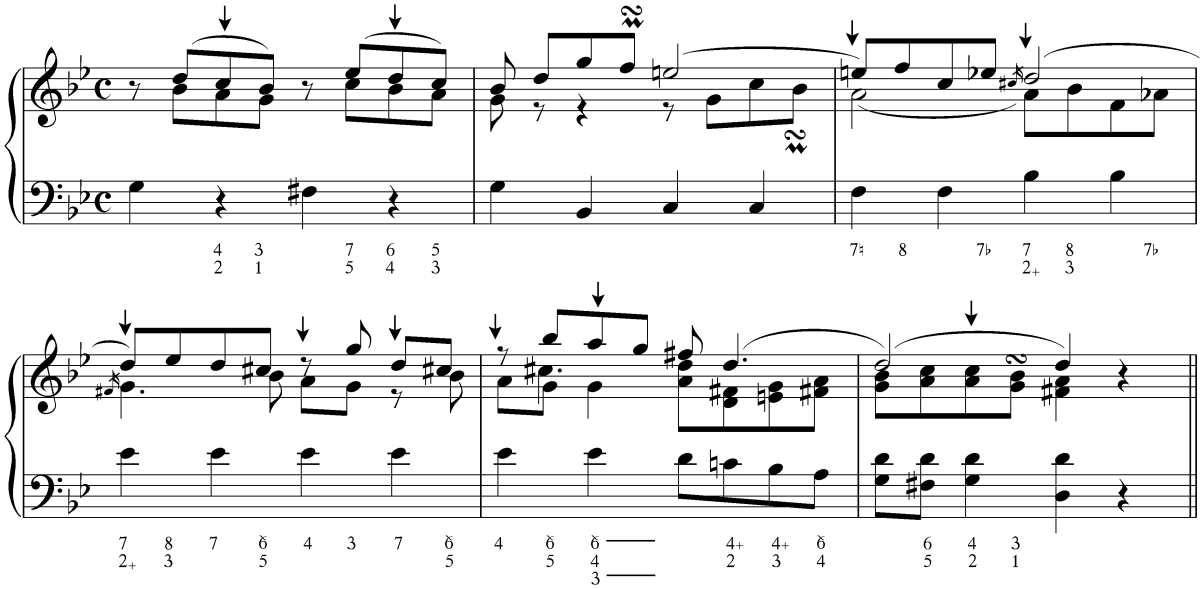


In his setting (of the same date) of *Von Gott will ich nicht lassen,* likewise previously quoted, Praetorius prepares the 4th but not the 6th at the close (b). At the beginning of the quoted passage he seems to adopt a more modern approach, falling to the 4th and 6th at (a) without any preparation:



The examples feature three cadential or appoggiatura 6-4-chords, therefore, with three different degrees of preparation. Consequently, the expressive effect of the progressions also differs. (It would go too far to conclude that the unprepared appoggiatura is more powerful, even where the dissonances are stronger; let us not underestimate the expression inherent in the preparation itself, as it creates a certain expectation!)

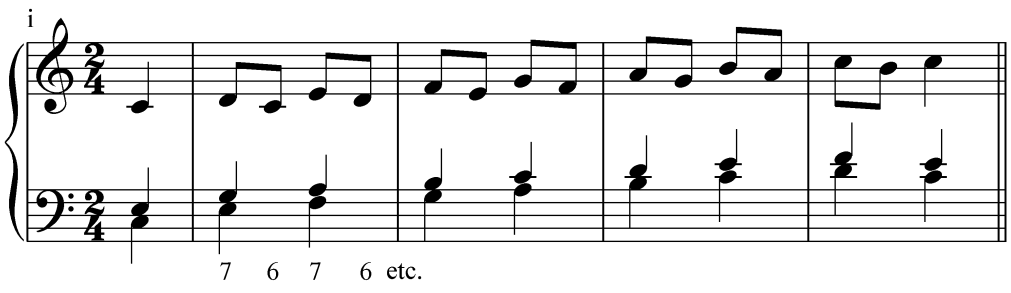
Since the Renaissance, the preparation of dissonance has always remained an important aspect of harmony and counterpoint. From the 18th century, however, the unprepared appoggiatura became increasingly fashionable. In the music of the high Baroque we are familiar with the trill that begins 'on the beat' with an appoggiatura from above, with or without preparation. As mentioned earlier, the term comes from the Italian verb *appoggiare* (= to lean), which says much about its musical significance. The appoggiatura *leans* against the main note and resolves into it, usually by step. After the Baroque, the unprepared appoggiatura became a favourite means of expression. Moreover, this dissonance - at a relatively strong moment in the bar - came to be resolved upwards as well as downwards.
In the music of Carl Philipp Emanuel Bach, the second son of Johann Sebastian, these elements are found in abundance. At the opening of the Adagio from his 5th Organ Sonata, we hear appoggiaturas with and without preparation that resolve both upwards and downwards. (The appoggiaturas in small print are to be played on the beat, at the expense of the succeeding note.)

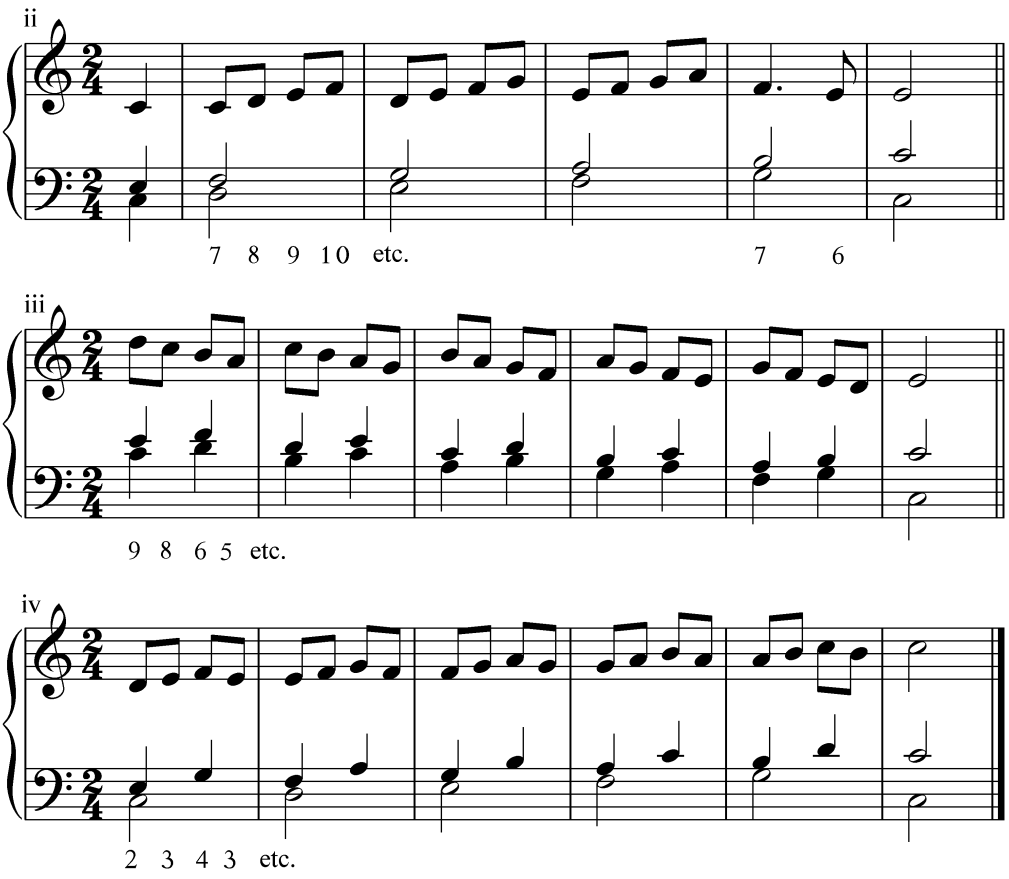


Such unprepared and sometimes chromatic appoggiaturas reflect new styles of expression and dynamics in the period after Johann Sebastian Bach. (By reason of its expressive possibilities, the clavichord was the favourite keyboard instrument of C.P.E. Bach. For the same reason, the fortepiano was on the verge of breaking through to supersede the harpsichord.) Thus the path was prepared for the Viennese classics - Haydn, Mozart and Beethoven.

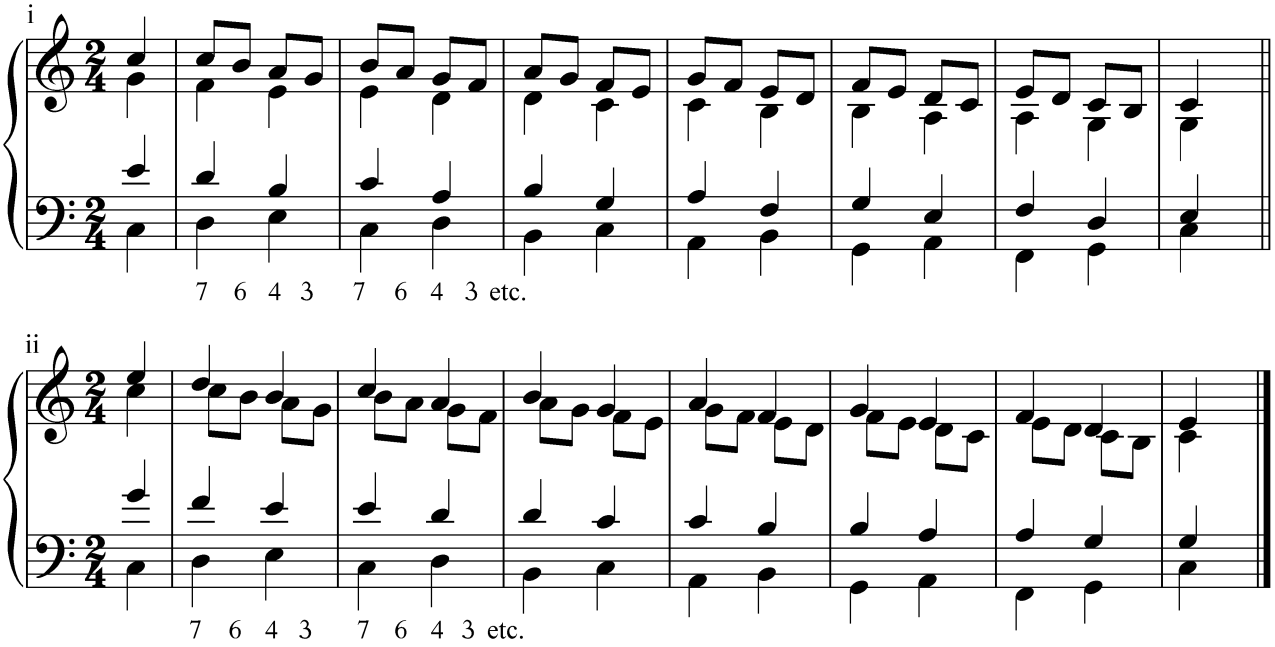
EXERCISES:

1. Play the following sequences in three parts (two parts in the l.h.) in all major keys:



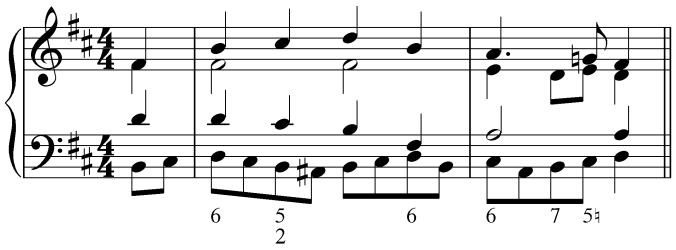


2. Play the following sequences in four parts in all major keys:

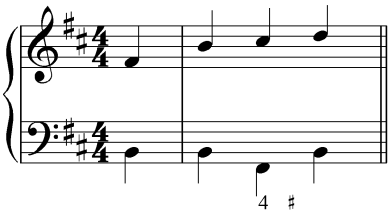


Although the character and expression of these ‘galant’ appoggiaturas were new in the mid-18th century, most of the harmonic implications - leaving aside certain chromatic alterations - were not. In the music of Johann Sebastian Bach the continuo player will encounter figured basses of greater complexity than in any of his direct predecessors and contemporaries. Bach’s harmonic style was richer, his counterpoint more complex. Appoggiaturas in the bass, for example, result in unusual figures that may obscure what often turn out to be simple and familiar progressions.

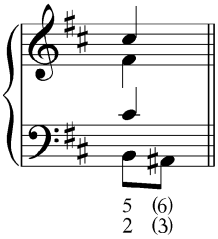
Bach's *Ich steh an deiner Krippen her* is a case in point. It begins as follows:



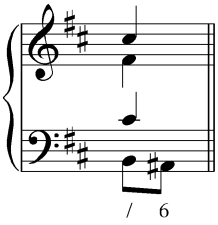
When viewed in terms of root positions, the first four beats are simply:



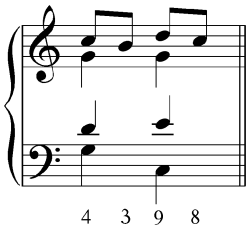
Bach, however, places the 4-3 suspension (unprepared) in the bass, thus 'delaying' the second 6-chord:



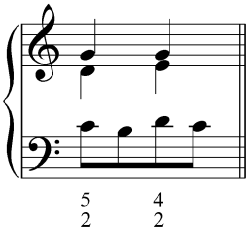
When a chord is thus 'delayed' by an appoggiatura, the figures too are occasionally likewise delayed by a dash (worth remembering for one's own use!):



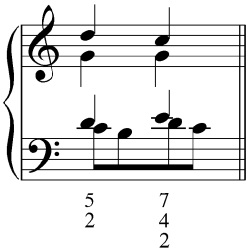
Let us leave Bach for the moment. In the following V-I progression, two unprepared appoggiaturas are heard in the soprano:



If these appoggiaturas are removed to the bass, the figures are usually as follows:



or:

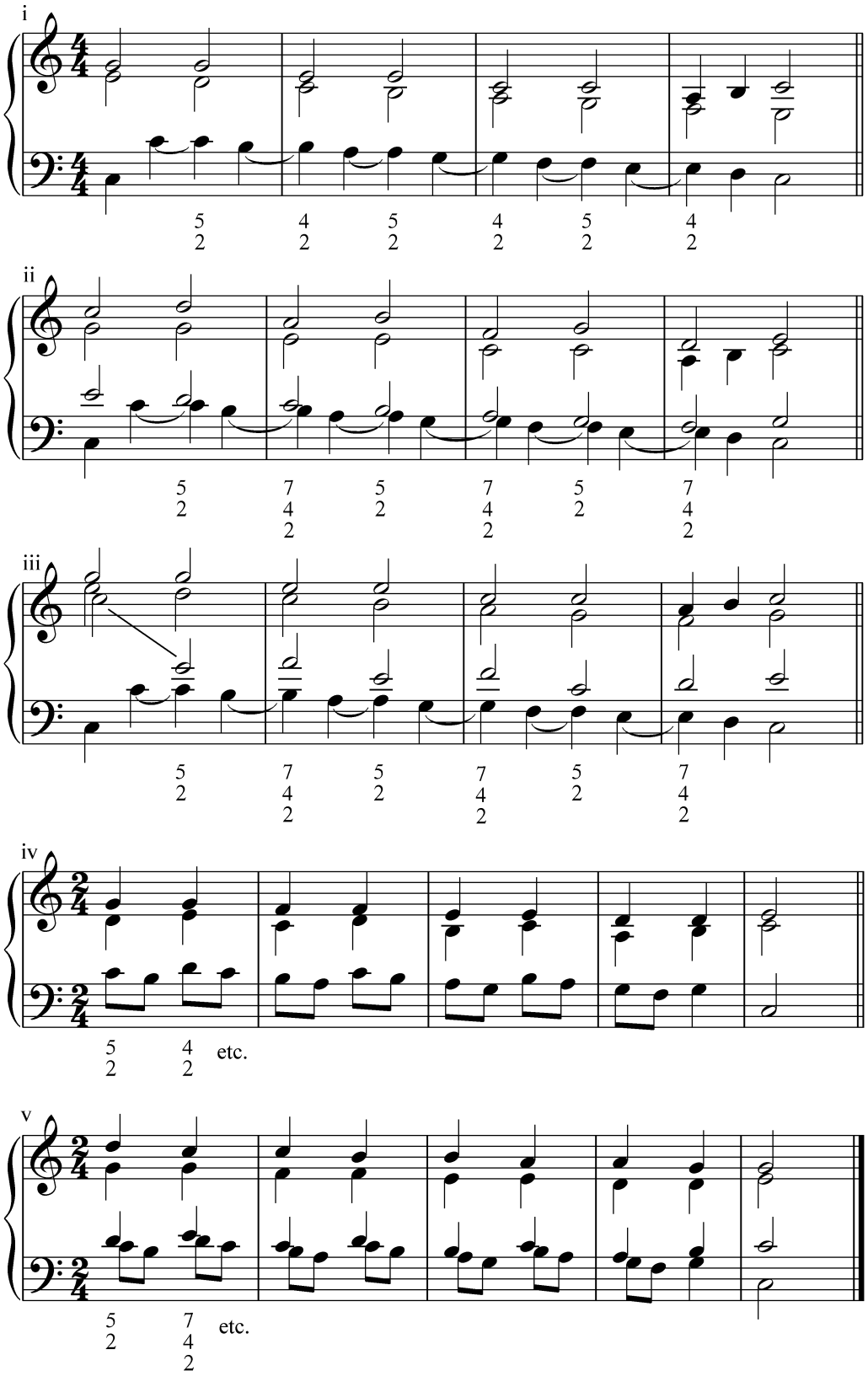


We note that:

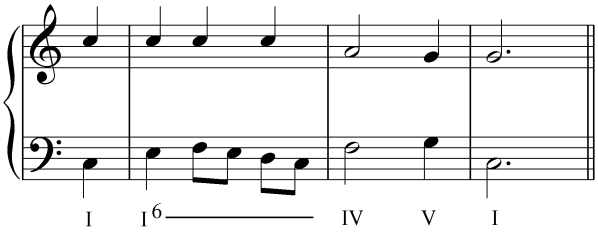
- $\begin{smallmatrix}7\\4\\2\end{smallmatrix}$ indicates a triad in root position preceded by an appoggiatura in the bass,
- $\begin{smallmatrix}5\\2\end{smallmatrix}$ indicates a 1st inversion preceded by an appoggiatura in the bass.

EXERCISES:

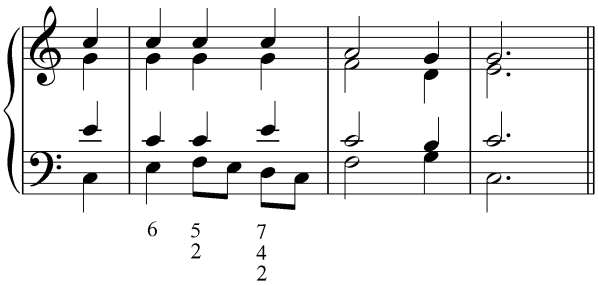
3. Practise the following sequences in all major keys:



The continuo player must learn to read between the lines! Complex figures may make a progression look more complicated than it really is. The following I-IV-V-I progression:

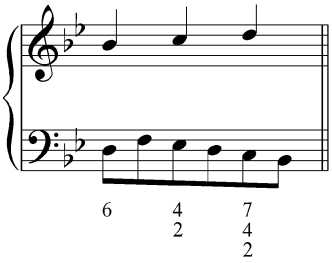


is sometimes figured as follows:

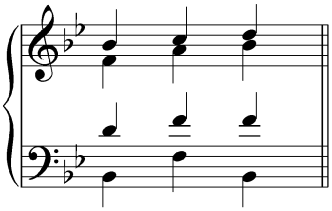


Let us not be deterred by composers and publishers eager to be thorough. (The figured basses discussed here are taken from Georg Christian Schemelli's *Musikalisches Gesang-Buch* of 1736).

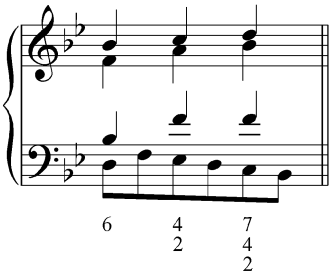
In the end, of course, the continuo player should aspire to rely on musical insight and the ear rather than on numbers. 'Playing by numbers' may well form the starting-point, but freedom to make music is the goal. When the experienced player sees the following:



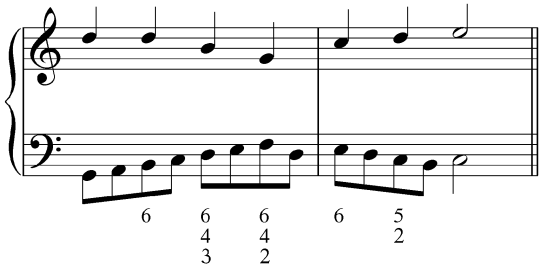
the I-V-I progression will be recognised:



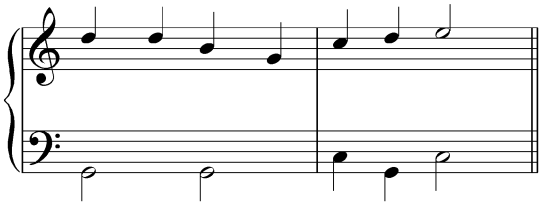
which is hardly difficult to play:



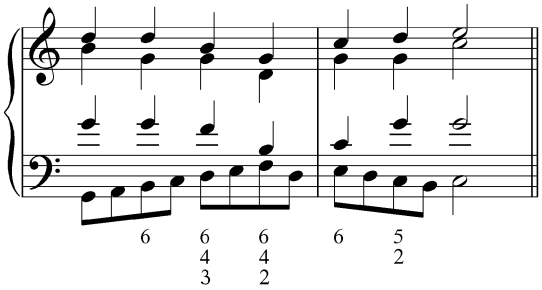
The following figured bass may look complicated:



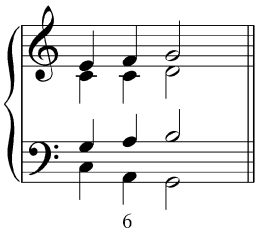
but it is really only the tonic and dominant (with and without the 7th) in various inversions:



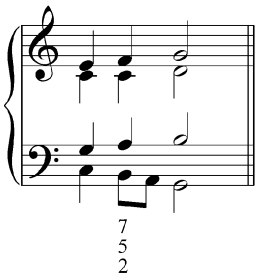
which can be realised as follows (avoiding the parallel 8ves in the scheme!):



Finally, if the following I–IV-V progression:



is enriched with an unprepared appoggiatura in the bass, the figures for the delayed 6-chord are as follows:

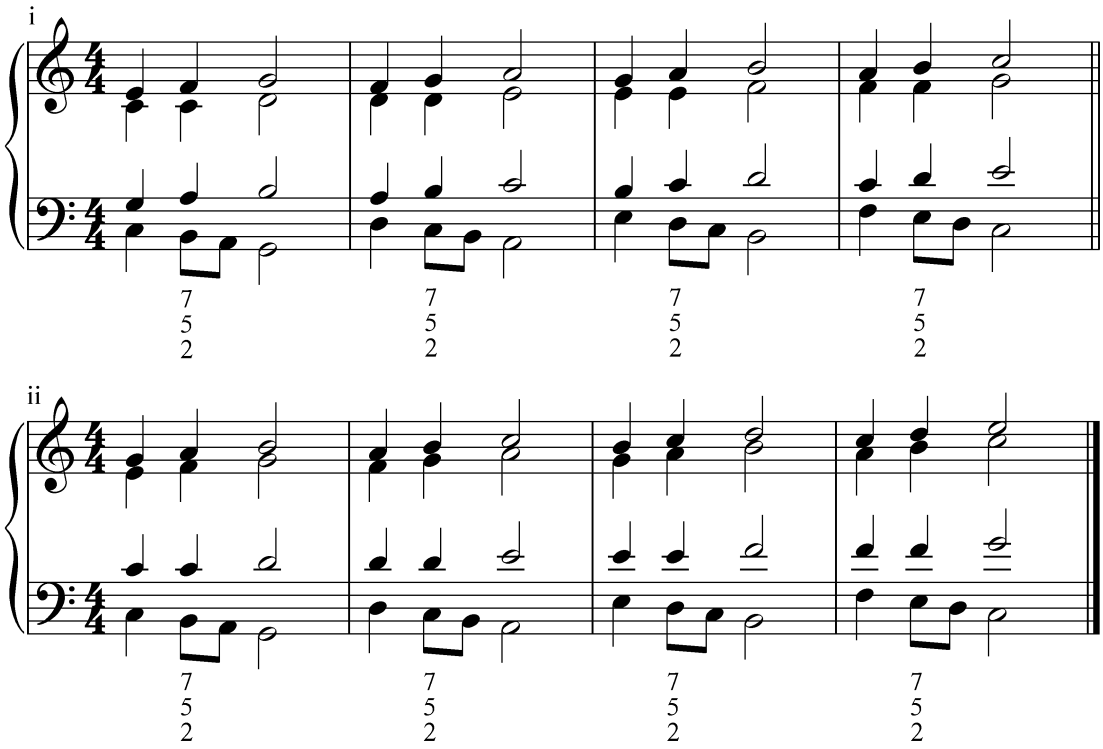


One of the elements that makes the harmonic style of J.S. Bach so rich is his frequent use of the 7-chord in all its inversions. And if he adds appoggiaturas, the basic progression may be more difficult to perceive - but that is where our aural skills should help!

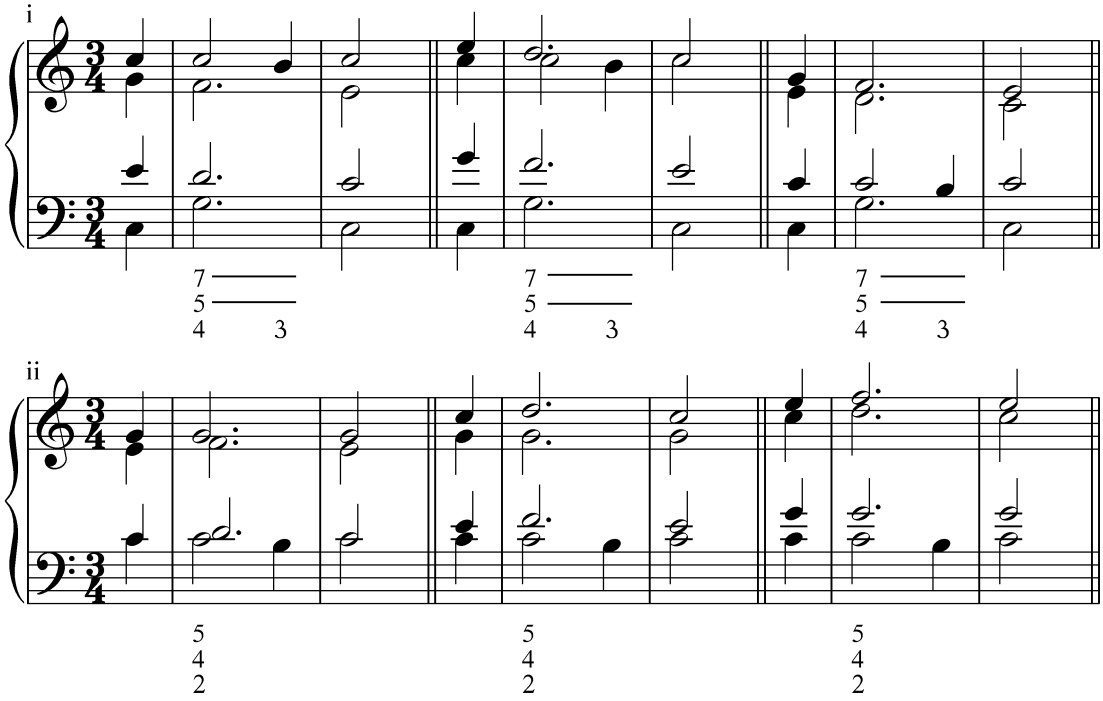
EXERCISES:

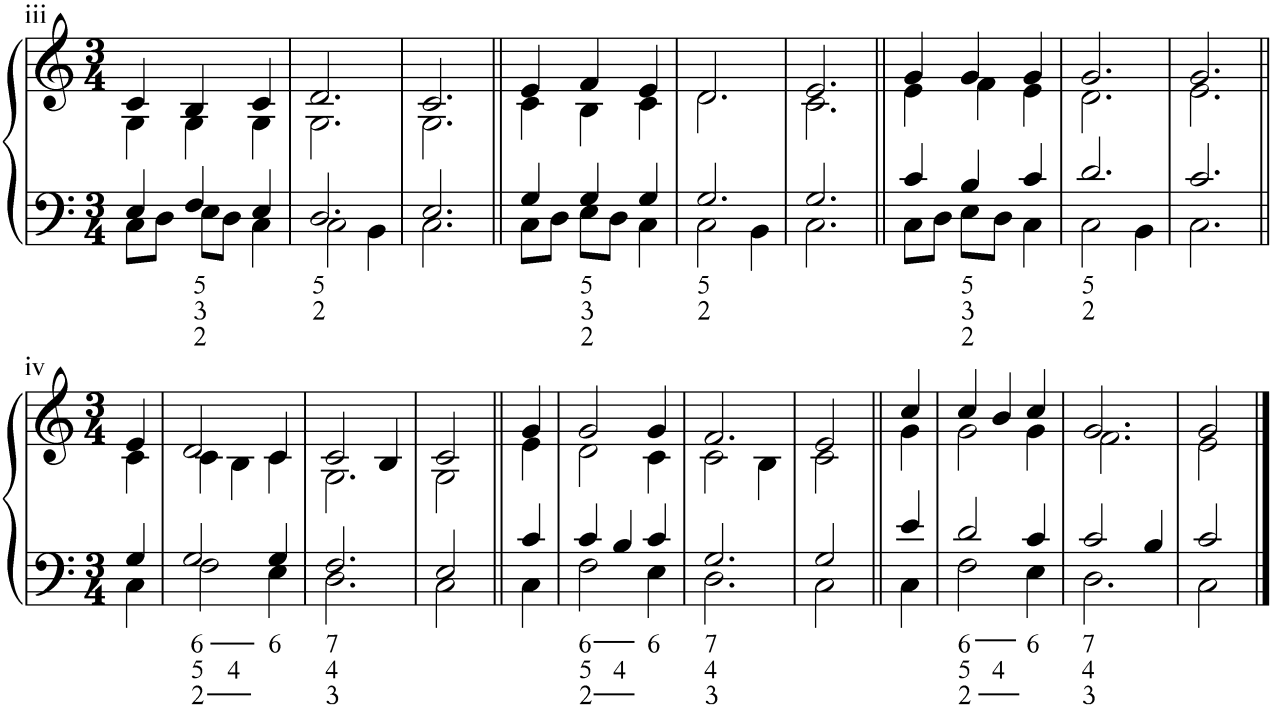
In the following exercises the 6- and 7-chord are preceded by the most common appoggiaturas.

4. Practise the following sequences in all major keys:



5. Practise the following cadences in all major keys:

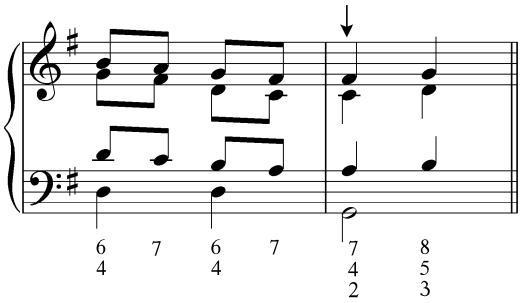




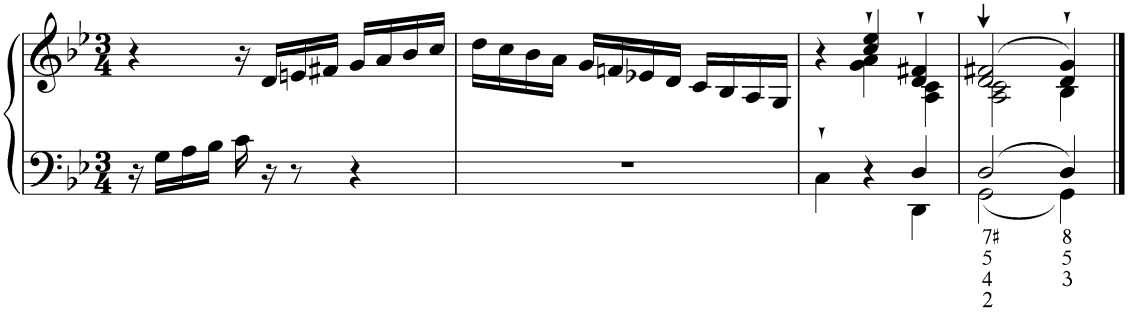
6.* Repeat ex.4 and 5 with a solo stop and pedals.

Multiple appoggiaturas

If more than one appoggiatura occurs at the same time on a relatively strong beat, we speak of **multiple appoggiaturas**:

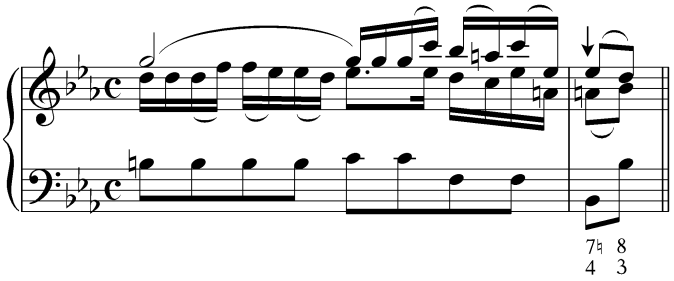


The chordal notes of the dominant-7-chord in bar 1 are non-chordal to the tonic triad in bar 2. What is more, the dominant-7-chord is heard at weak moments, indeed as passing notes, while the multiple appoggiaturas fall on the first beat of the bar. In bar 2 all three appoggiaturas resolve upwards - not only the leading note, but also the 5th and 2nd. Carl Philipp Emanuel Bach's 6th Sonata for organ ends thus:

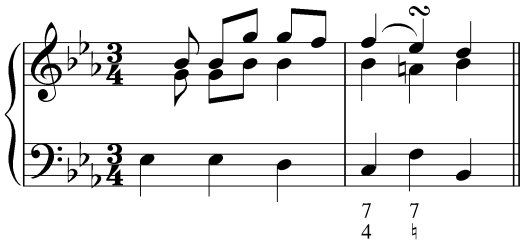


In the final bar, against the root and 5th of the tonic triad, we hear the 2nd, 4th and 7th (the leading note). The 4th resolves down to the 3rd; the leading note logically resolves upwards, and the 2nd does the same.

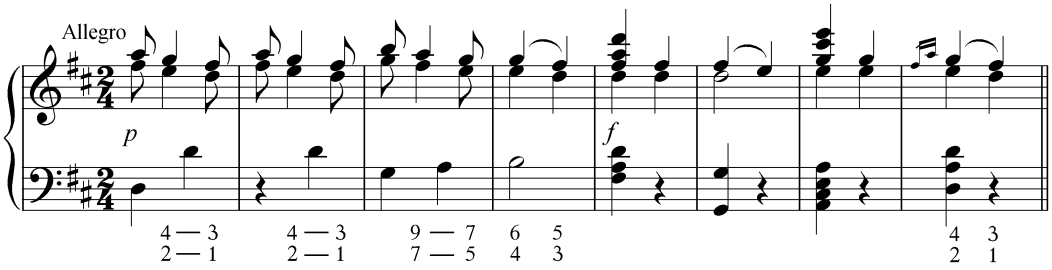
In other cases, the 4th and 7th are heard without the 2nd, as in the Adagio from the 6th Sonata by C.P.E. Bach:



In the Arioso from his 2nd Sonata, the composer has the 4th and 7th (on II) resolve into the dominant-7-chord, i.e. the first 7-chord resolves into the second one:

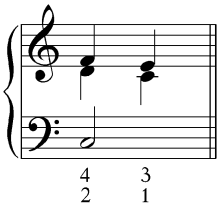


At the beginning of the third movement of C.P.E. Bach's 5th Sonata, the multiple appoggiaturas with the 2nd and 4th (and the 7th and 9th!) have become a thematic element in themselves:

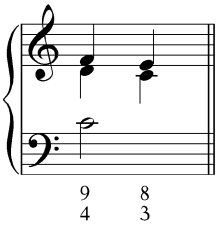


Part writing

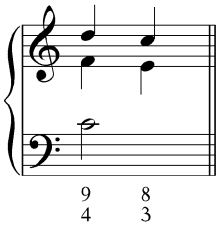
As we have learned, we may usually decide for ourselves in which position to realise figured bass, especially when there is no given soprano part. However, a number of factors must be borne in mind. For example, where the figure 2 indicates an appoggiatura, a 9th (or even an 8ve plus a 9th) will often be required instead in order to create space for the resolution:



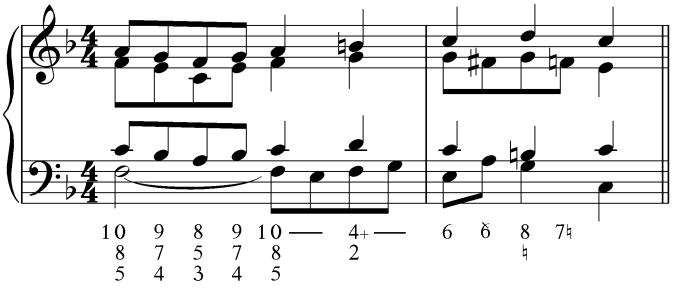
Where a composer writes a figure 9 for the same reason, it is usually incorrect to play a 2nd instead:



The 9 implies that 8 follows, and for that purpose space must be created:

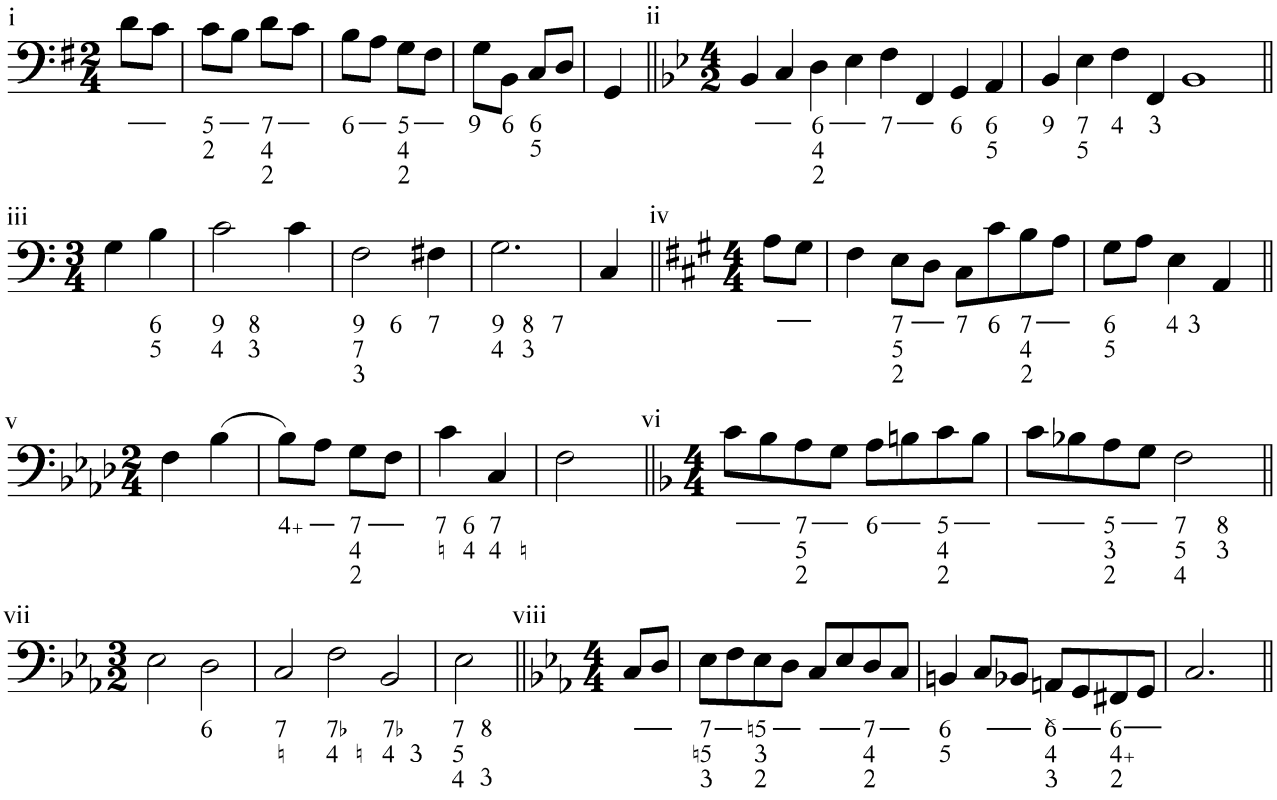


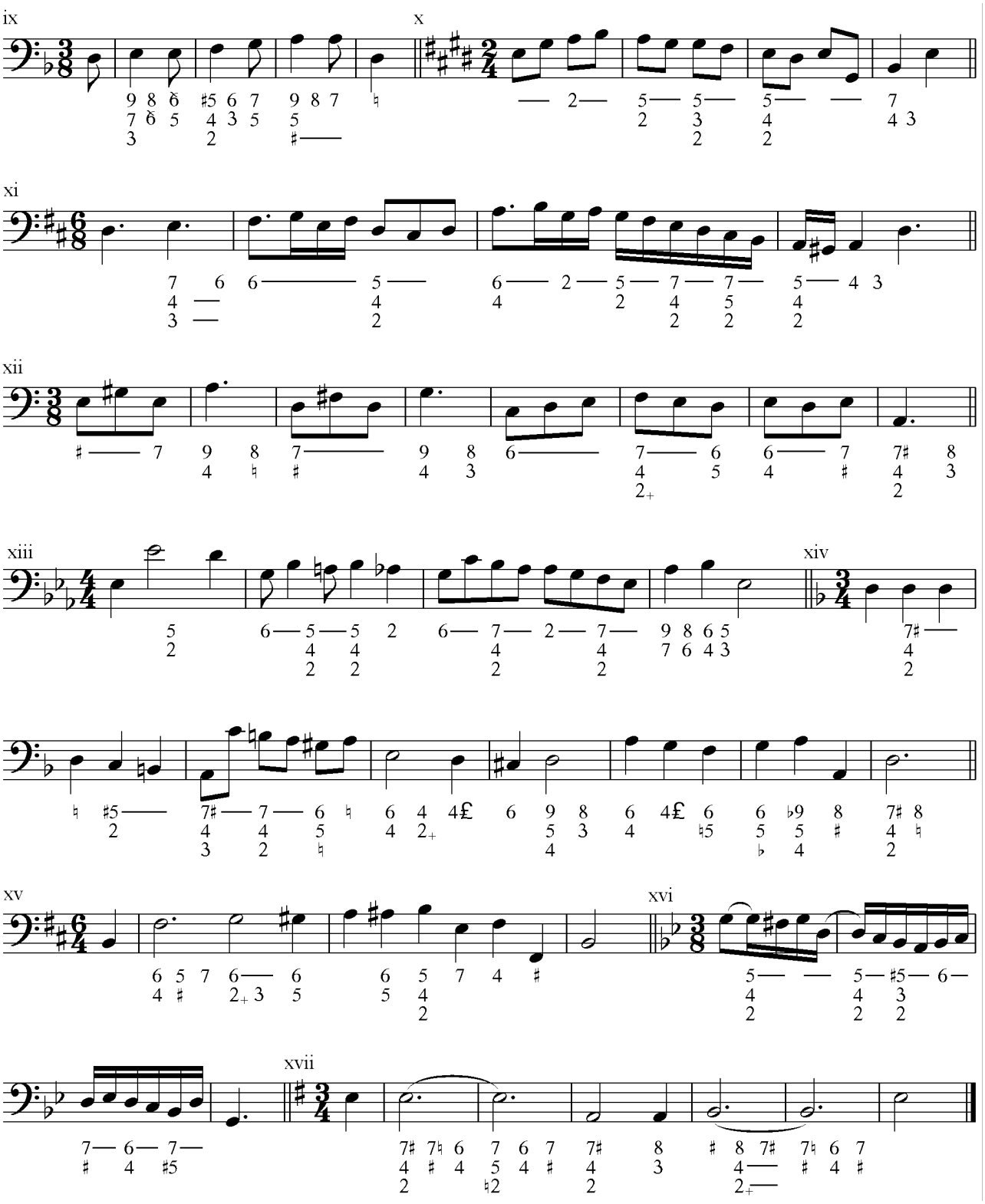
If the figure 10 occurs (see ex.1.ii), the composer likewise indicates that extra space is required between the bass and the 3rd. In such cases the player is not entirely free to determine the part writing. In Johann Ludwig Krebs's setting of *Sei Lob und Ehr dem höchsten Gut* (from his *Klavierübung*), the part writing indicated by most of the figures is actually a matter of course in view of the shape of the chorale melody:



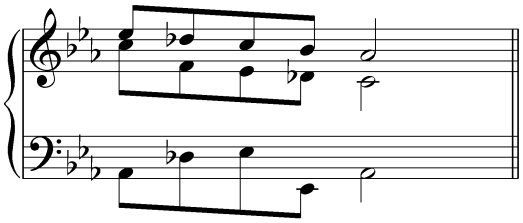
EXERCISES:

7. Harmonise the following figured basses in four parts in different positions:

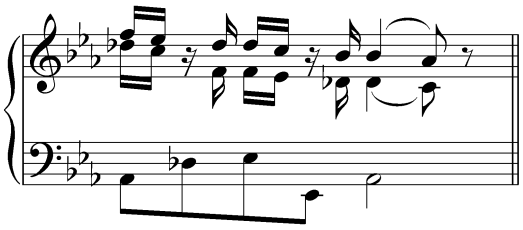




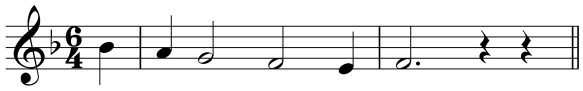
From the examples of (multiple) appoggiaturas in this chapter, it will be clear that they are not simply decorative, but essential elements of the galant and classical styles. In the Adagio from his 6th Organ Sonata, C.P.E. Bach uses them to turn a simple I-IV-V-I cadence into a moment of elegance - indeed of 'sighing' beauty:



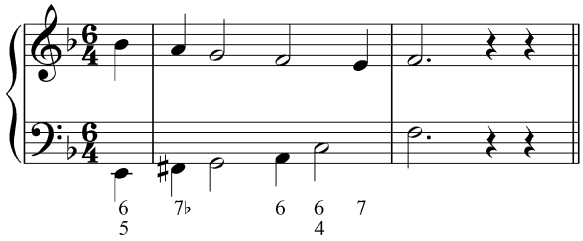
becomes:



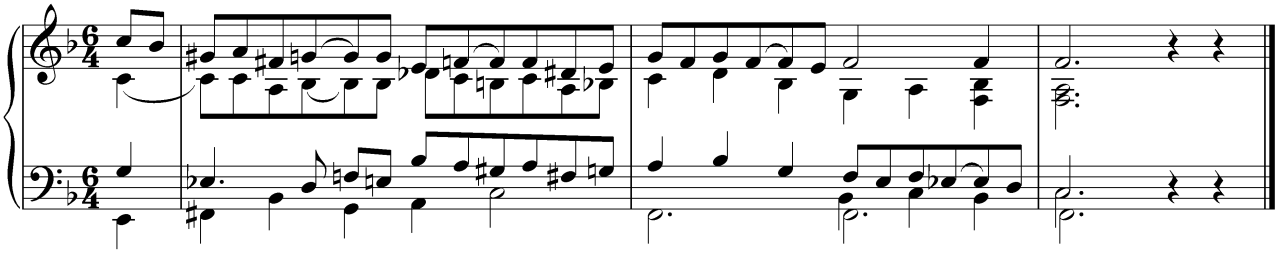
As we come to the end of *The Lost Chord,* the thought that *all good things come to an end* could also be applied to the decline of tonality, and certainly in the context of the appoggiatura. In 1896, in the final year of his life, Johannes Brahms composed his *Eleven Chorale Preludes* for the organ. The final phrase of the chorale melody *Es ist ein Ros' entsprungen* is as follows:



and employs the following basic progression:



Brahms filled his composition with single and multiple appoggiaturas:



The harmonic scheme is somewhat hidden from the eye and ear - one of those moments when one searches for *the lost chord*. But there are greater and more serious concerns here. The chromatic appoggiaturas in the first whole bar employ the following notes that are strange to the key of F major: F sharp, G sharp, B, D flat and D sharp, which means that in this one bar all 12 (chromatic) notes occur. Brahms's chromatic multiple appoggiaturas, utilising no less than five notes strange to the key, form a threat to the stability of the key. In more general terms: towards the end of the 19th century the tonal system was severely weakened by the rise of extreme chromaticism. When Brahms wrote his chorale preludes, Schönberg was already 22 years old and Stravinsky 14. Seventeen years later, in 1913, Stravinsky's *The Rite of Spring* was premiered in Paris. Around 1920, less than twenty-five years after Brahms's chorale preludes, Schönberg began to experiment by treating all 12 notes entirely equally - thus marking the birth of 12-note technique.

13

THEORY AND PRACTICE

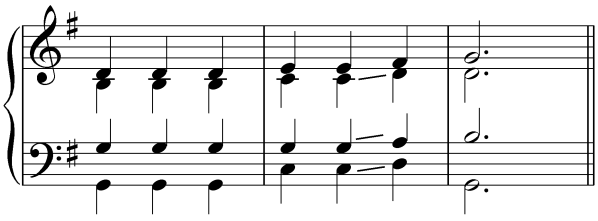
Parallel 3rds between the outer parts
Open spacing
Forbidden fruits

“I have sought, but I seek it vainly, that one lost chord divine” - the poet suspects that she will only hear again “that one lost chord” in the life hereafter. As we know, in the hereafter the laws of earthly existence will be swept away. In this final chapter of *The Lost Chord* the pilgrim who has progressed this far will be treated to a foretaste.

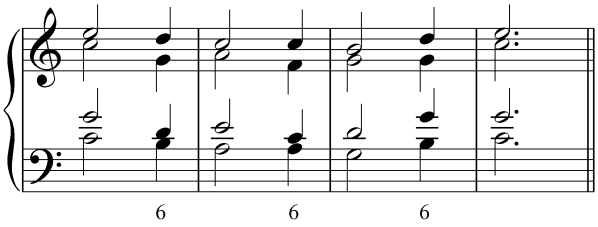
In order to keep the reader on the straight and narrow path, the author imposed from the very beginning two rules that may now be gradually relaxed or even disregarded. They concern parallel 3rds between the outer parts, and harmonisation in open spacing.

Parallel 3rds between the outer parts

In Part I of *The Lost Chord* the triad was used exclusively in root position and in closed spacing. It was therefore necessary in ch.18 (Part I p.61) to impose - for the time being - an embargo on two successive chords in 3-position:

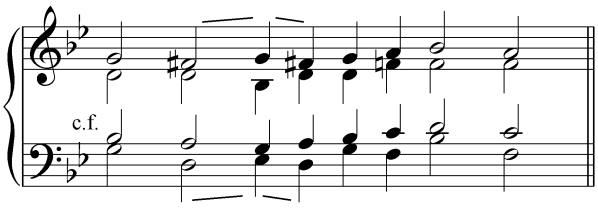


The parallel 3rds between the outer voices are not incorrect in themselves, but the root positions in closed spacing give rise to parallel 5ths and 8ves (see also p.18 of the present volume).
When the 6-chord and mixed spacing were introduced in Part II, we were able to play parallel 3rds between the outer parts without causing parallel 5ths and 8ves between the other voices; root positions and 1st inversions alternate as follows:

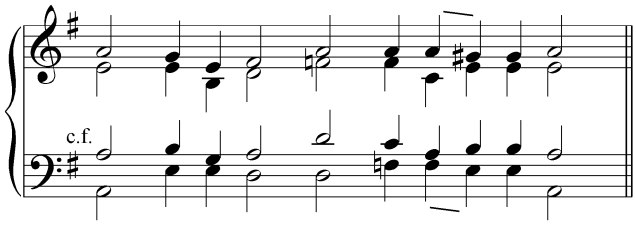


However, even without 1st inversions, there are ways to play parallel 3rds between the outer voices without causing parallel 5ths and 8ves in the inner voices. Indeed, these are actually progressions of particular beauty.

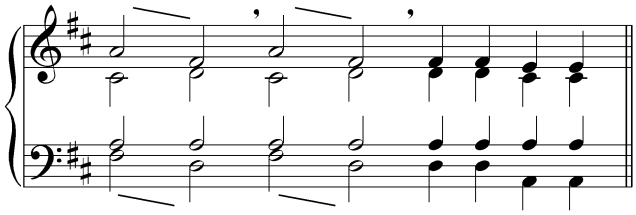
In the mid-16th century, Claude Goudimel used such parallel 3rds between root positions with some regularity. His setting of Psalm 38 is as follows:



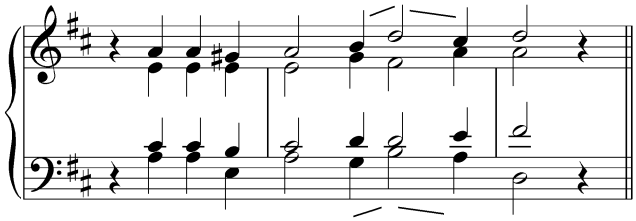
Here is the opening of Goudimel's setting of Psalm 145:



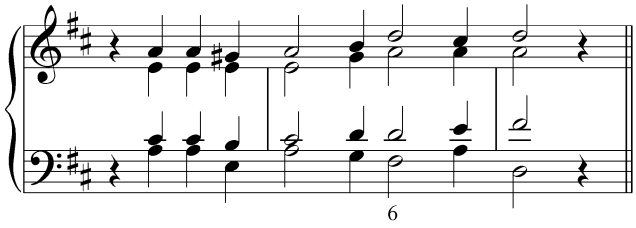
In 1627, Johann Hermann Schein wrote the following parallel 3rds in his setting of *Wie schön leuchtet der Morgenstern*:



While in 1609 Melchior Vulpius harmonised the second phrase of his own melody *Die helle Sonn leucht' jetzt herfür* in the following manner:

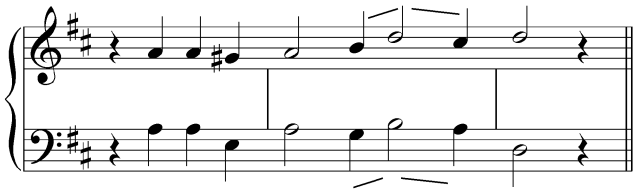


The leap to the high D in Vulpius's melody is strong and radiant. Between major triads, the minor triad on VI precisely at this moment sounds tense and colourful. Later composers would perhaps have opted for the following progression:

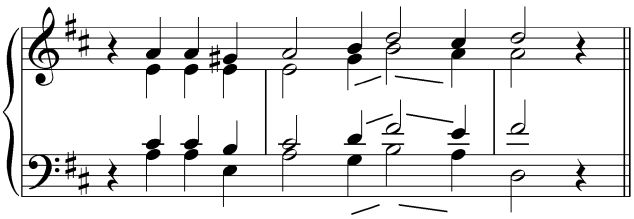


Despite the tension of the 6-chord, we miss the colour of the minor triad on VI.

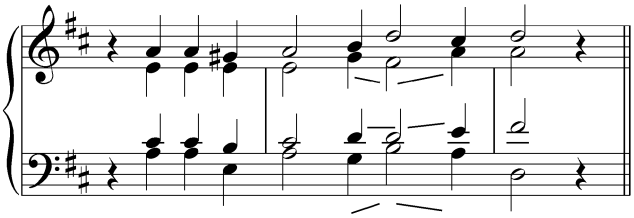
Let us stay with Vulpius's chorale to discuss the part writing. He supports the leap of a 3rd in the melody with a parallel 3rd in the bass:



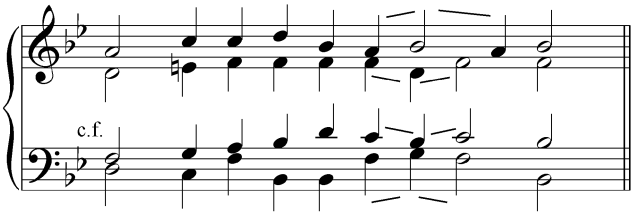
Vulpius harmonises in closed spacing, but in order to avoid the following parallel 5ths and 8ves:



he writes the triad on degree VI in mixed spacing; the outer parts rise in parallel 3rds, while the alto moves downwards and the tenor stays where it is:

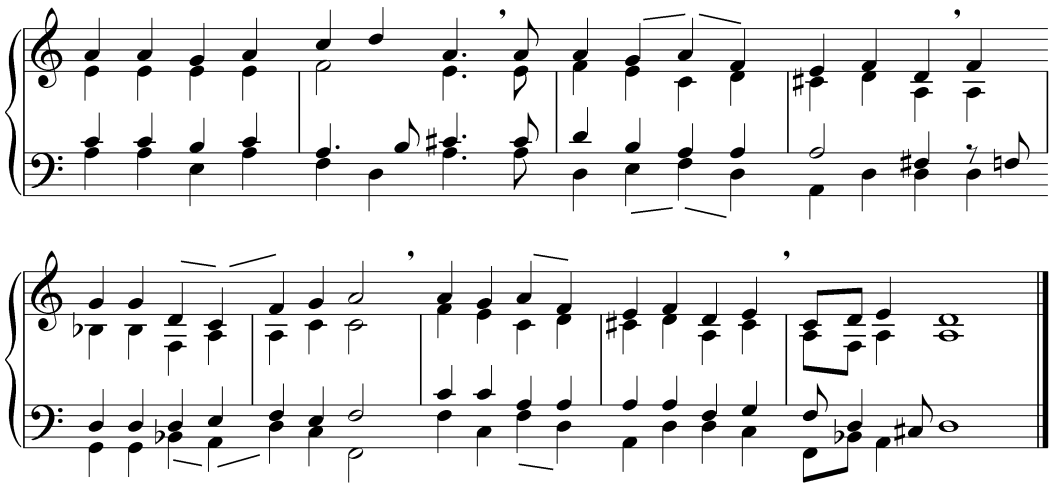


When the outer parts move on again in descending parallel 3rds, the inner parts rise, returning to closed spacing. The spacing is therefore: closed - mixed - closed. In other words: rising outer parts have falling inner parts, and vice versa, in order to accommodate parallel 3rds with chords in root position. A common cadence formula in Goudimel's psalm settings follows the same pattern. Here is the fourth phrase of Psalm 4:



In the outer parts are two successive parallel 3rds (somewhat disguised by the 4-3 suspension - see Part II p.18). When the outer parts rise, the inner parts fall, and vice versa.

In his setting of *Christ ist erstanden* (1608), Hans Leo Hassler also writes successive parallel 3rds between the outer parts:

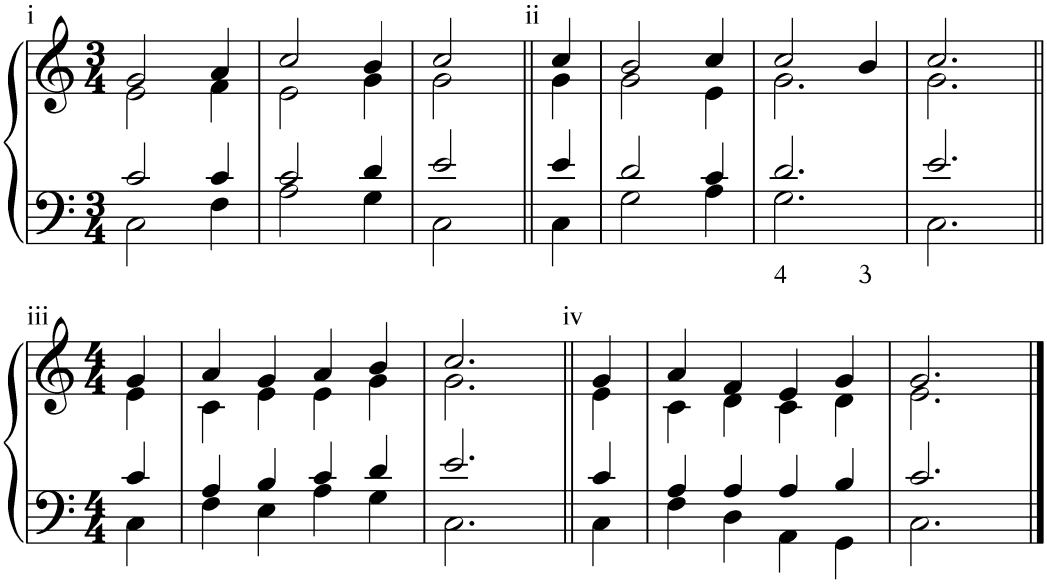


Parallel 3rds between the outer parts of root-position chords may produce particularly effective four-part progressions. But if the player is unaware of the dangers, the resulting

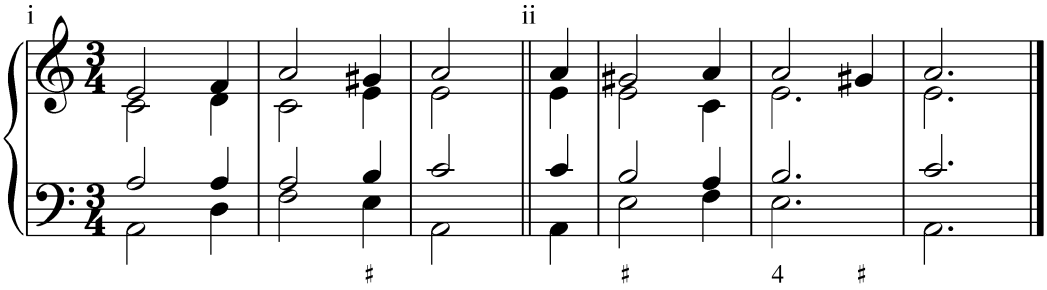
parallel 5ths and 8ves will have quite the opposite effect. Where parallel 3rds are employed between the outer voices, closed and mixed spacing must consistently alternate.

EXERCISES:

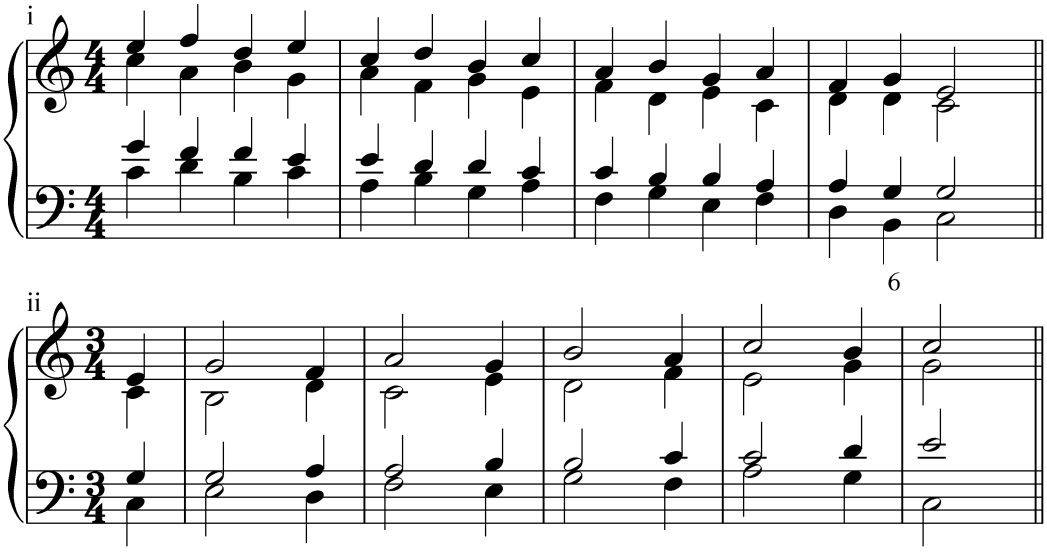
1. Practise the following cadential phrases in all major keys. At some points, particularly in chords in mixed spacing, it may be easier to play certain tenor notes with the l.h.

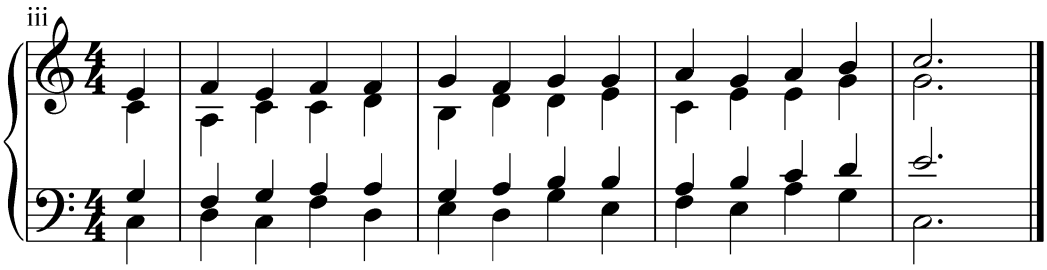


2. Practise the following cadential phrases in all minor keys:



3. Practise the following sequences in all major keys:

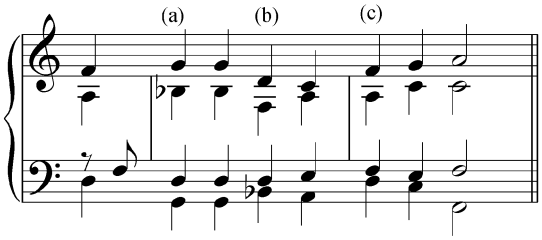




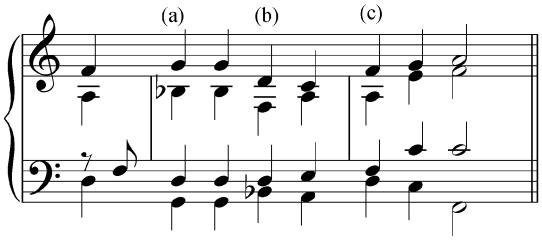
4.* Repeat ex.1 to 3 with a solo stop and pedals.

Open spacing

The alert reader will have noticed some time ago that the music examples in *The Lost Chord* are not exclusively in closed (and mixed) spacing. Our last example came from Hassler's setting of *Christ ist erstanden*, the second phrase of which employs closed, mixed and open spacing:



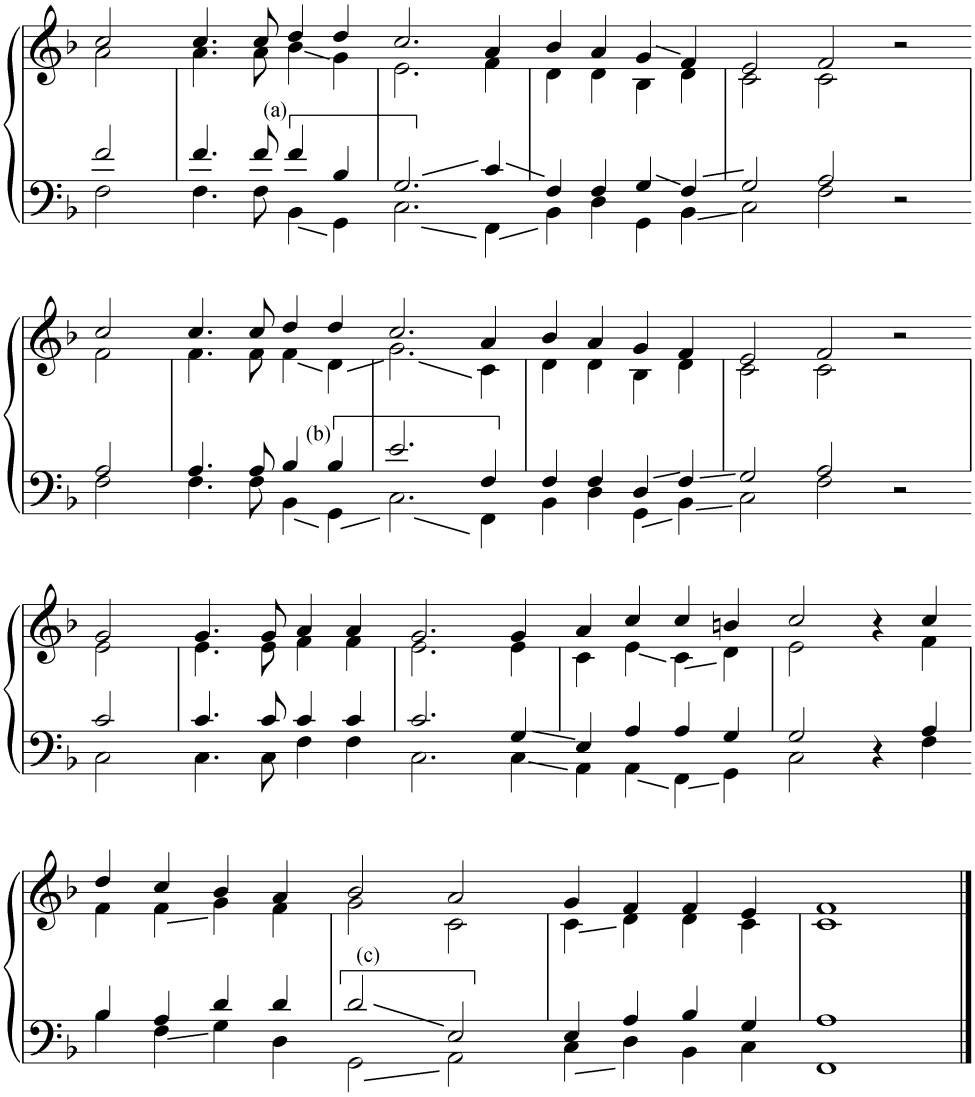
The open spacing at (a) enables the alto, tenor and bass to make way for the low notes in the melody at (b). What is more, the descending parallel 3rds at (b) require that the inner parts rise. The successive spacing from (a) is therefore: open - mixed - closed - mixed - open. After (c), the cadence could have been in closed spacing:



but the steeply rising inner parts from (b) onwards are rather unfortunate. Moreover, it cannot be denied that the open spacing of Hassler's final chord sounds superior!

In his *Versuch über die wahre Art das Klavier zu spielen*, Carl Philipp Emanuel Bach described open spacing ("das getheilte Accompagnement") as a great virtue, to be mastered "by playing good keyboard music" (Berlin edition 1753/1762, ch.32 §10). Besides aesthetic considerations, open spacing, as we have seen above, gives more scope for our part writing. However, harmonisation in open spacing is a technique for experienced players, as 18th-century writers were anxious to emphasise. In general, the reader was advised to harmonise in closed spacing, with the three upper parts in the r.h. and the bass in the l.h. (the physical sensation of frequent contrary motion between the three upper parts in the r.h. and the bass in the l.h., enabling incorrect parallel movement to be noticed more quickly, is very much missed if - as in open spacing - the tenor is played with the l.h.). It is of primary importance to create a correct bass under a given soprano, providing a strong basis for harmonisation in closed spacing. But a correct bass offers little guarantee if we subsequently alternate closed, mixed and open spacing, through which many mistakes may occur, as our next example illustrates.

In Part I p.78 the melody of Crüger's *Nun danket alle Gott* is given. If we play in four parts in closed spacing above the given bass, parallel 5ths and 8ves may be ruled out. The following realisation of the same bass, however, offers a glimpse of what can go wrong if we switch unknowingly from closed to mixed and open spacing:



Besides the indicated parallel 5ths and 8ves, at (a) (b) and (c) the part writing, if the setting were to be sung, could require an extra rehearsal for the tenors... In general, it is advisable to avoid the augmented 4th at (b); the same applies to the augmented 2nd: these 'awkward' intervals are not conducive to elegant - and singable - part writing (see Part II p.61).

There can be no doubt that open spacing is indeed a great virtue (and a fine sound on a good Principal stop when the parts are widely spread!). But those who take up the challenge are strongly advised to write down their settings and check them thoroughly (beginning with the bass), preferably under the supervision of a teacher.

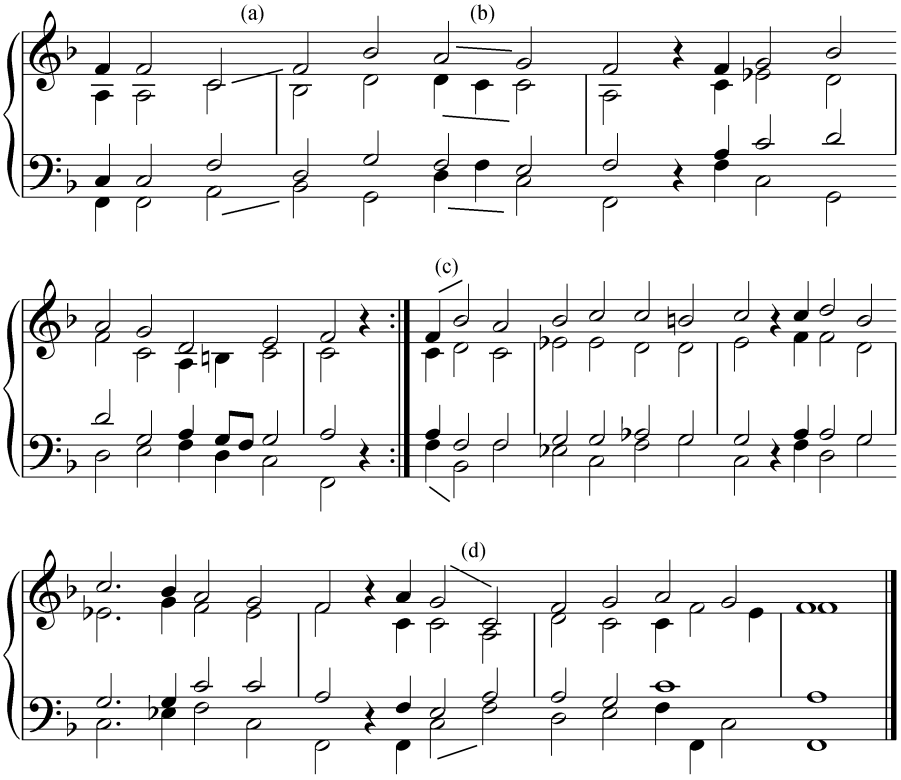
Forbidden fruits

Having said enough about rules that may be ignored, albeit with the necessary self-criticism, let us turn to rules that must be put into a certain historical perspective.

All who have learnt a little about harmonisation know that parallel 5ths and 8ves are considered to be incorrect. In 16th-century polyphony as well, direct perfect 5ths and 8ves between the same two parts were strictly forbidden. This rule was not thought up simply to put composers to the test. Our collective musical ear, conditioned for centuries by Western music, has determined that parallel 5ths and 8ves form weak progressions. In all truth it must be said that the medieval musician thought differently; clarification of this, however, would go beyond the scope of *The Lost Chord*.

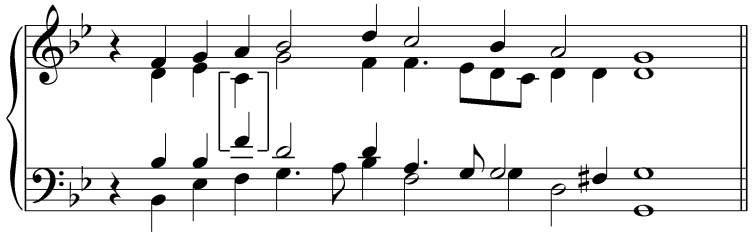
However unequivocal the rules on parallel 5ths and 8ves may be, they do need to be placed in a certain historical perspective. Like any other theory, the theory of music is essentially a retrospective analysis of an existing practice. In *The Lost Chord* we have discussed harmonisations spanning some 350 years from the late Renaissance to the late Romantic era. Over these centuries, musical practice and musical theory evolved through a number of greatly divergent styles. Our public musical life, however, has focused so strongly on the period of classical tonality, from approximately 1700 to 1900, that the 150 years between 1550 and 1700 have hardly been considered in most practical harmonisation tutors. The theory given in such publications, therefore, may sometimes differ from the practice found in chorale and hymn harmonisations of the 16th and 17th centuries.

An example is Hans Leo Hassler's setting of *Nun freut euch lieben Christen gmein* (1608):

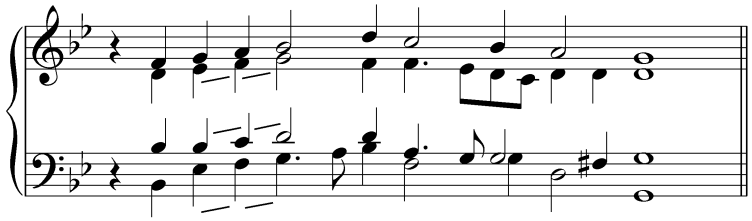


- at (a) there is an exposed 5th between the outer parts;
- at (b) there are in effect parallel 5ths and 8ves;
- at (c) and (d) there are parallel 8ves and 5ths respectively in contrary motion.

A fourth exceptional situation is found, for example, in the final line of Seth Calvisius's setting of *Allein zu dir, Herr Jesus Christ* (1594):

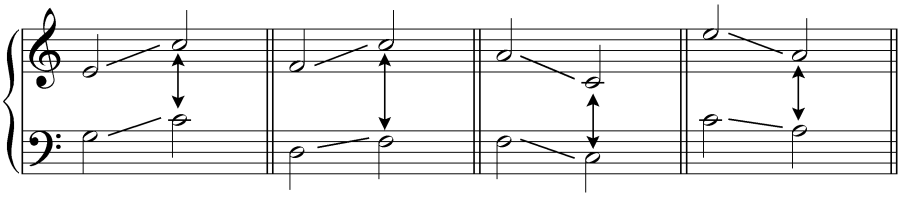


In the third chord, the tenor rises above the alto. If we ignore the part-crossing and notate the progression as it really sounds, we hear the following:

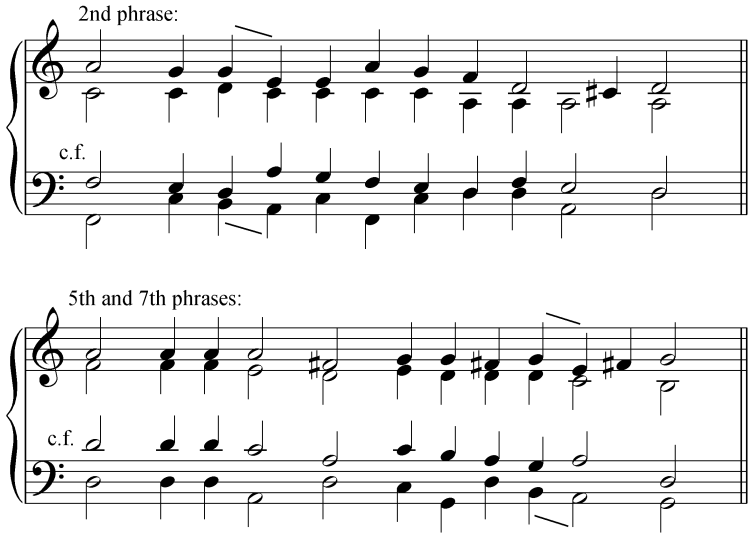


Let us examine these four examples at more length.

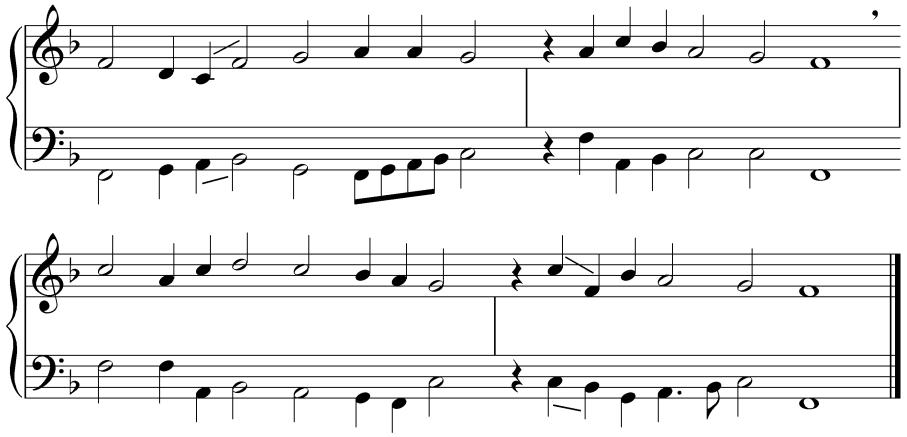
An exposed 5th or 8ve occurs if two voices move in the same direction to a perfect 5th or 8ve (see Part II ch.6). This is really a rather common phonomenon, but it is usually considered incorrect between the outer voices if the interval in the lower part is smaller than that in the upper one, since the resulting 5th or 8ve can sound rather bare and conspicuous:



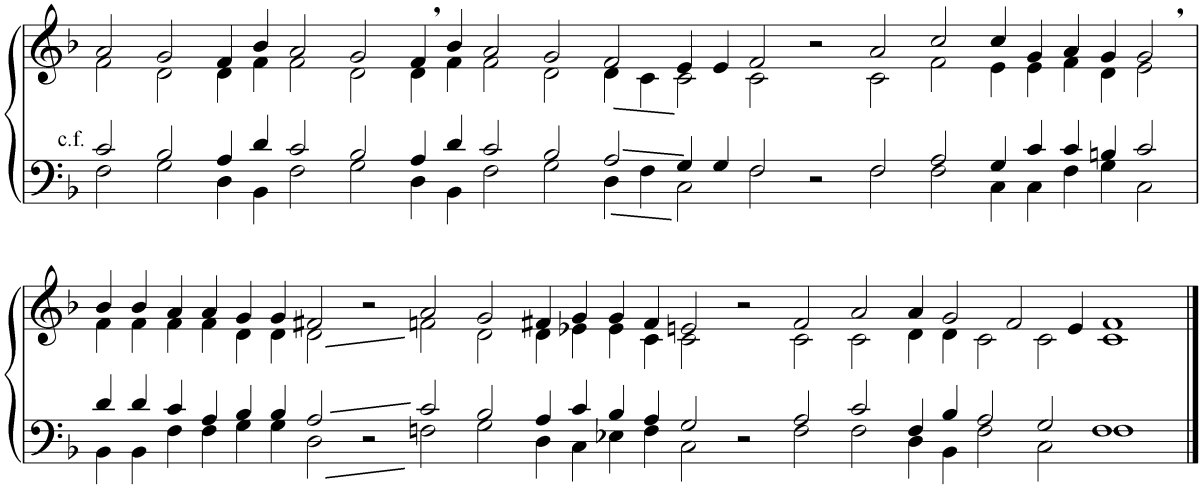
In the 16th century, however, this rule was slightly different, since exposed 5ths and 8ves were usually permitted if one of the two voices moved by step, and this applied to the outer parts as well. In this light it is hardly surprising that Goudimel's setting of Psalm 2 includes exposed 5ths between the outer parts that would have been forbidden according to later rules:



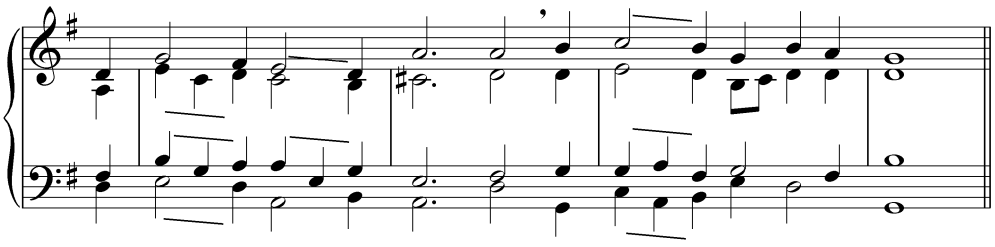
In 1653, one hundred years later, Crüger wrote the following bass to his own melody *Nun danket all und bringet Ehr*:



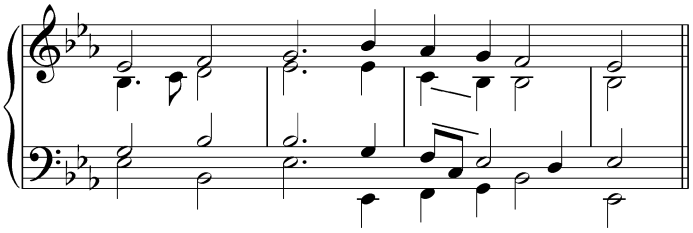
The ban on parallel 5ths and 8ves in classical polyphony did not hold if the parallel motion was interrupted by a different consonance or a rest (though a passing note was considered an insufficient remedy). In Goudimel's setting of Psalm 75, the part writing at the points indicated was therefore not considered to be incorrect:



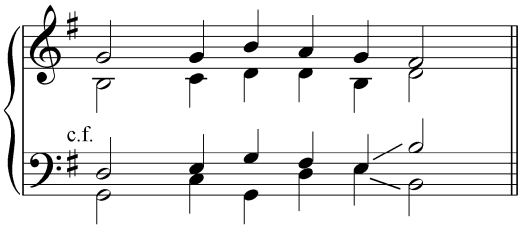
The same applies to the close of Michael Praetorius's setting of *Nun lob mein Seel, den herren* (1609):



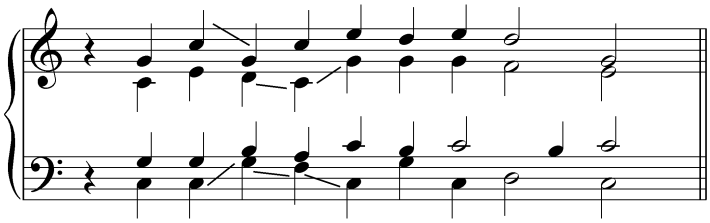
Even an intermediate and sometimes short consonance was sufficient to cancel parallels, as we see at the beginning of Johann Crüger's *Fröhlich soll mein Herze springen* (1653/57):



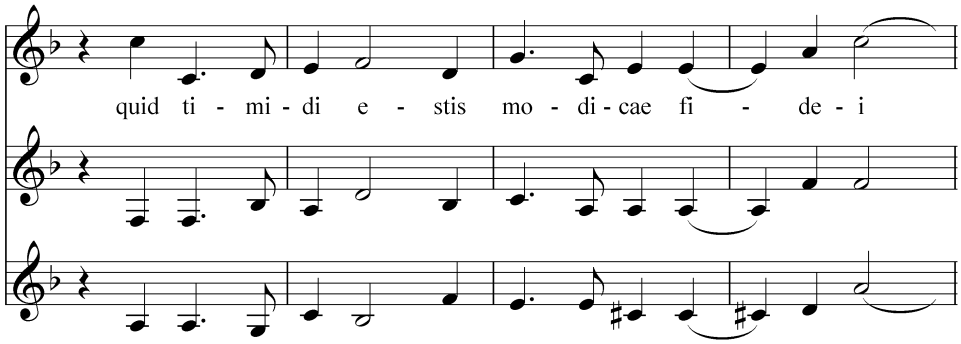
Parallel 5ths and 8ves in contrary motion were not unknown in classical polyphony, although they usually occurred between the bass and an inner part, and only by exception between the outer parts. In the psalm harmonisations of Goudimel we find parallel 8ves in contrary motion between the cantus firmus (in the tenor) and the bass, as in Psalm 6:



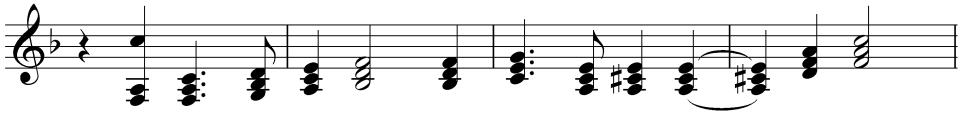
In the second phrase of Jakob Praetorius's *Wachet auf, ruft uns die Stimme* (1604) we find the following parallel 5ths and 8ves:



The fourth category of parallels, those that are heard but not seen, is more difficult for the modern reader to understand. In his motet *Ascendete Jesu*, Giaches de Wert (1535-1596) wrote the following three-part passage:

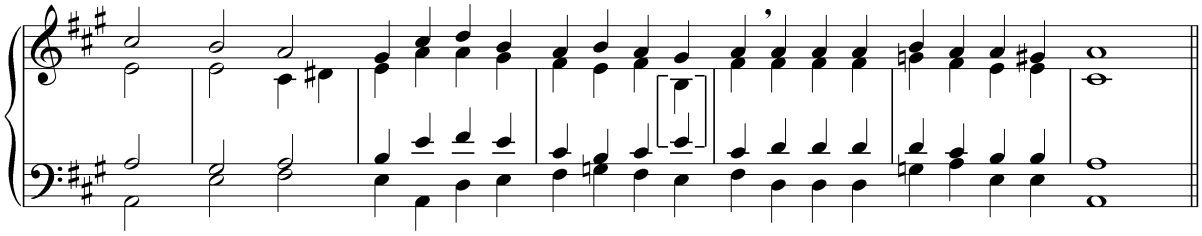


which actually sounds as follows:

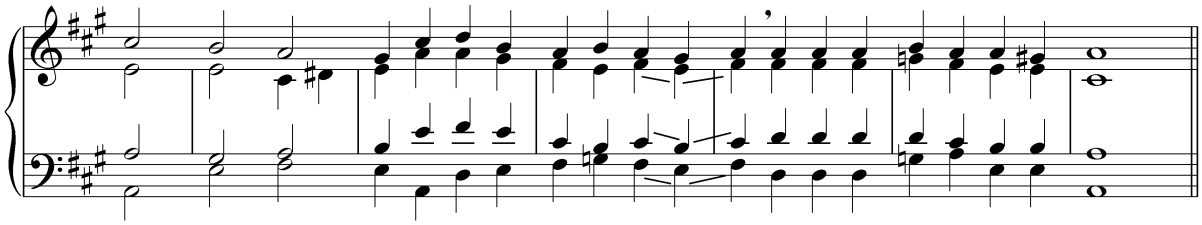


As long as there were no parallel 5ths or 8ves between two and the same parts, the 16th-century polyphonic composer was free of blame. Could it be that these 'sounding' parallels escaped the listener's attention because of the specific timbre of the different singers' voices? Or is there symbolism here, reflecting the sung text "Why are you afraid, you people of moderate faith?" (Mt 8:26).

Seth Calvisius's setting of *Herzlich lieb hab ich dich, o Herr* (1597) dates from one year after the death of De Wert. It ends as follows:



Here again, the 'sounding' parallels escape the eye because of the part-crossing:



Forbidden fruits? That is for the reader to decide, hopefully aided by an experienced teacher. As is often the case, theory and practice do not always go hand in hand. The reader of *The Lost Chord* will by now realise that this observation is not a licence to disregard all sorts of rules. In the final analysis, however, many decisions will be determined by the technique, aural skills, experience and taste of the player.

So let's make music! But even then: *It may be that only in Heav'n I shall hear that grand Amen*.