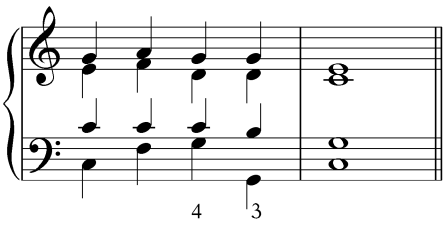
8

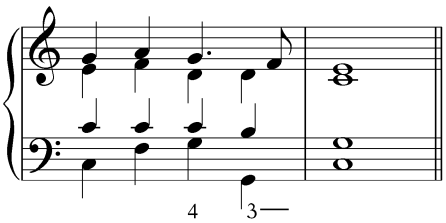
THE SIX-FOUR-TWO-CHORD

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

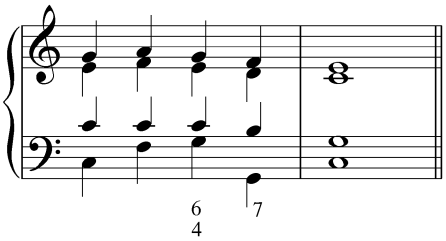
Let us return to the 7-chord. By reason of its considerable tension, the 7-chord is a powerful element in our vocabulary.
Whether we add the 7th to the triad on V, forming the dominant-7-chord, is often a question of style and taste. In the V-I cadence:



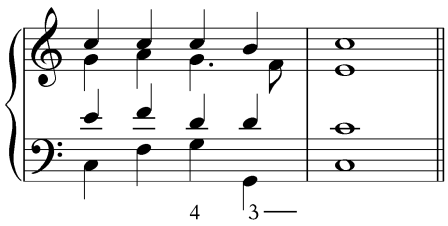
the 7th may contribute as a passing note to the linear movement:

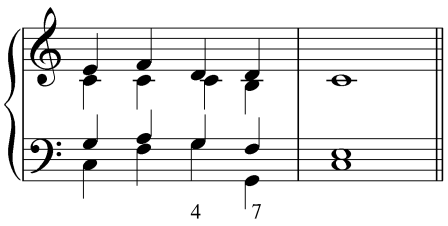


or its role may be more emphatic:



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

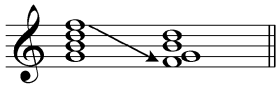




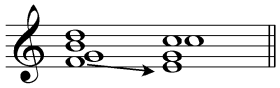
The 7th is a chord note of the dominant-7-chord. (By definition, therefore, not all chord notes are consonant!) Because the 7th is a dissonance, it nearly always moves stepwise downwards to the resolution - more often than not to the 3rd of the tonic triad.

The 3rd inversion of the 7-chord

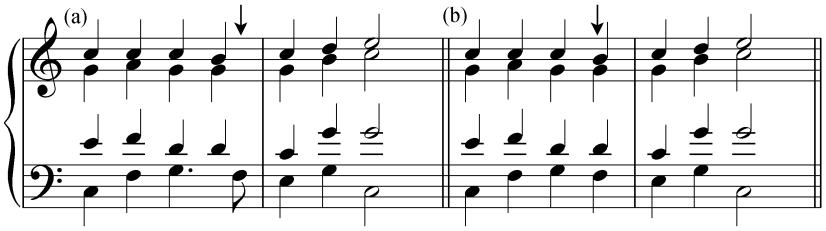
In the above examples the chord of the dominant 7th is in root position, with the dominant G in the bass and the 7th in the soprano, alto or tenor. But we may also turn the chord upside down, as it were, and play the 7th in the bass:



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:



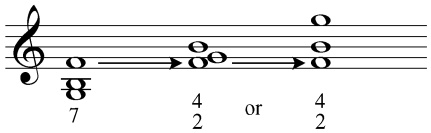
this progression does not constitute a cadence, and we could proceed as follows:



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

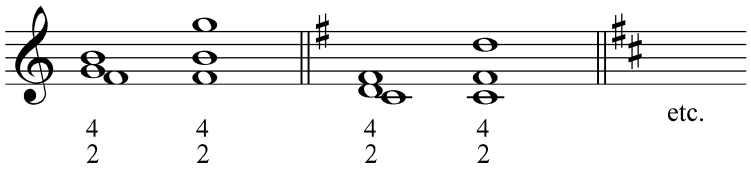
As we have seen, the 5th is often omitted from the 7-chord, in both root position and inversions. The 3rd inversion then becomes:



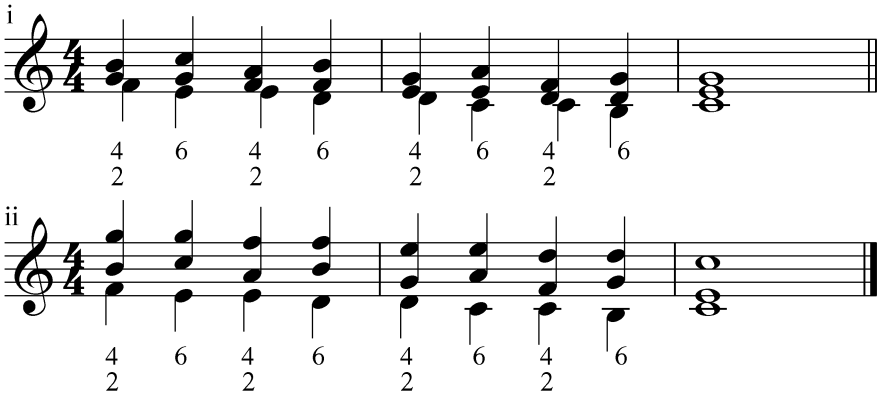
In the key of C major, the root of the dominant-7-chord is G. In the 3rd inversion the root moves to one of the two upper parts and the bass note is F.

EXERCISES:

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

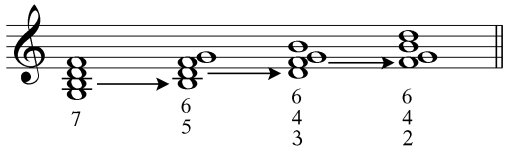


2. Play the following sequences in all major keys:



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.

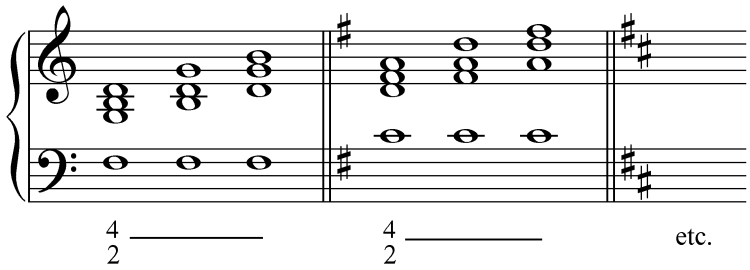
The figures are added up from the bass.

Figured bass

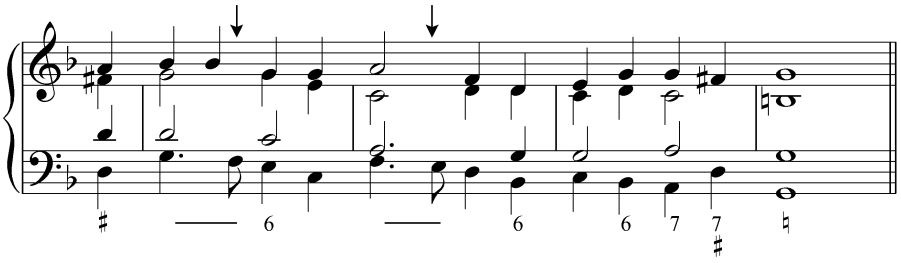
The 3rd inversion of the 7-chord is known as the 6-4-2-chord, and is abbreviated to 2-chord. The figured bass is also abbreviated from $\frac{6}{4}_{2}$ to $\frac{4}{2}$ or **2**. This means that the figure **2** implies at least $\frac{4}{2}$ and often $\frac{6}{4}_{2}$, even though the 4th and 6th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

EXERCISES:

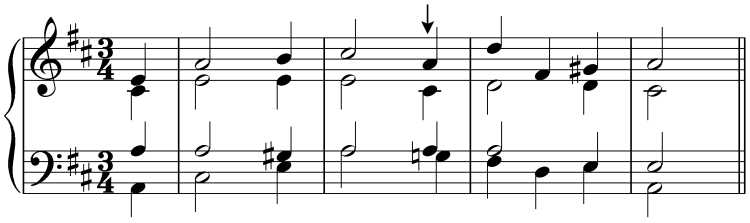
3. Play the 3rd inversion of the four-part dominant-7-chord in three positions. Practise in all keys.



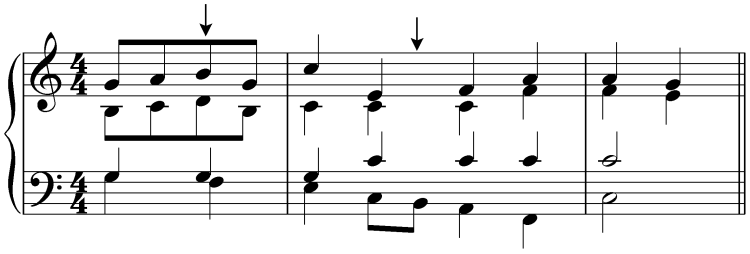
The 3rd inversion of the 7-chord is occasionally found in 17th-century chorale harmonisations, though only in the 'incidental' manner described above, where the 7th is a passing note; the observant reader may have discovered it in ch.3, in an example from Samuel Scheidt's *Von Gott will ich nicht lassen*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



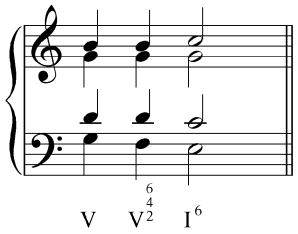
In the 18th century, the 3rd inversion, after the 1st, was by far the most common inversion of the 7-chord. Listen to the powerful effect of the 3rd inversion in Edward Millers *Caton*:



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

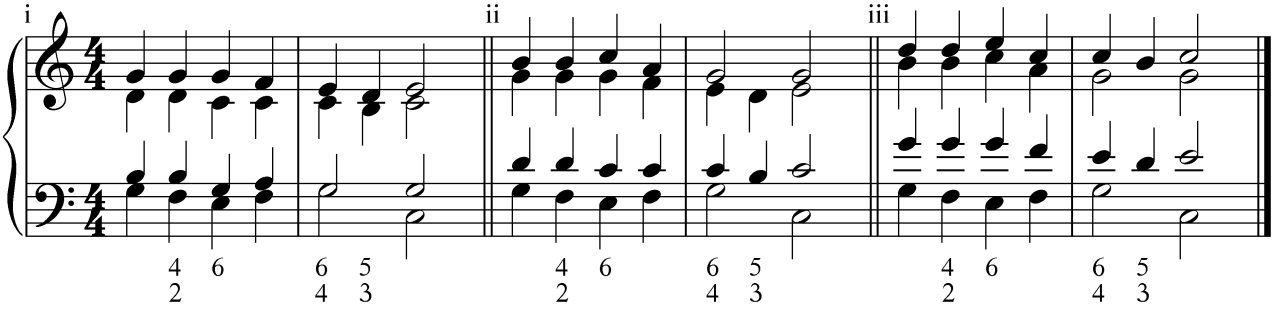


In these and other hymns and chorales, the 3rd inversion of the 7-chord lies almost invariably between the dominant triad in root position and the tonic triad in the 1st inversion:

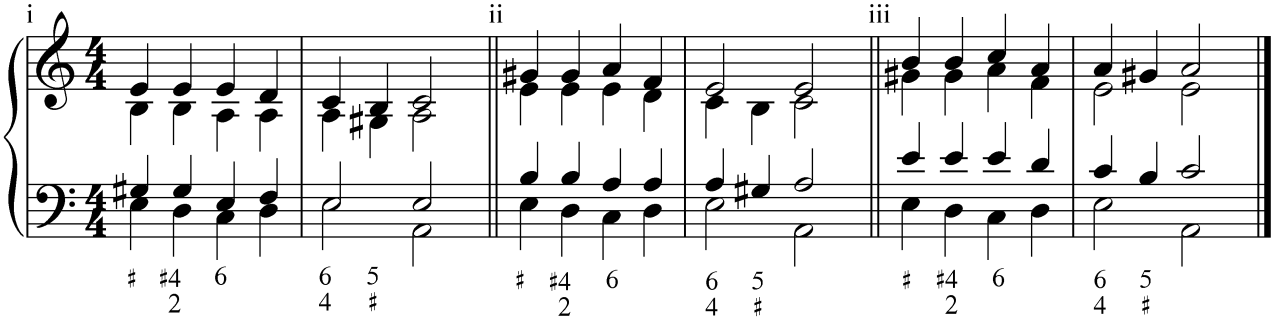


EXERCISES:

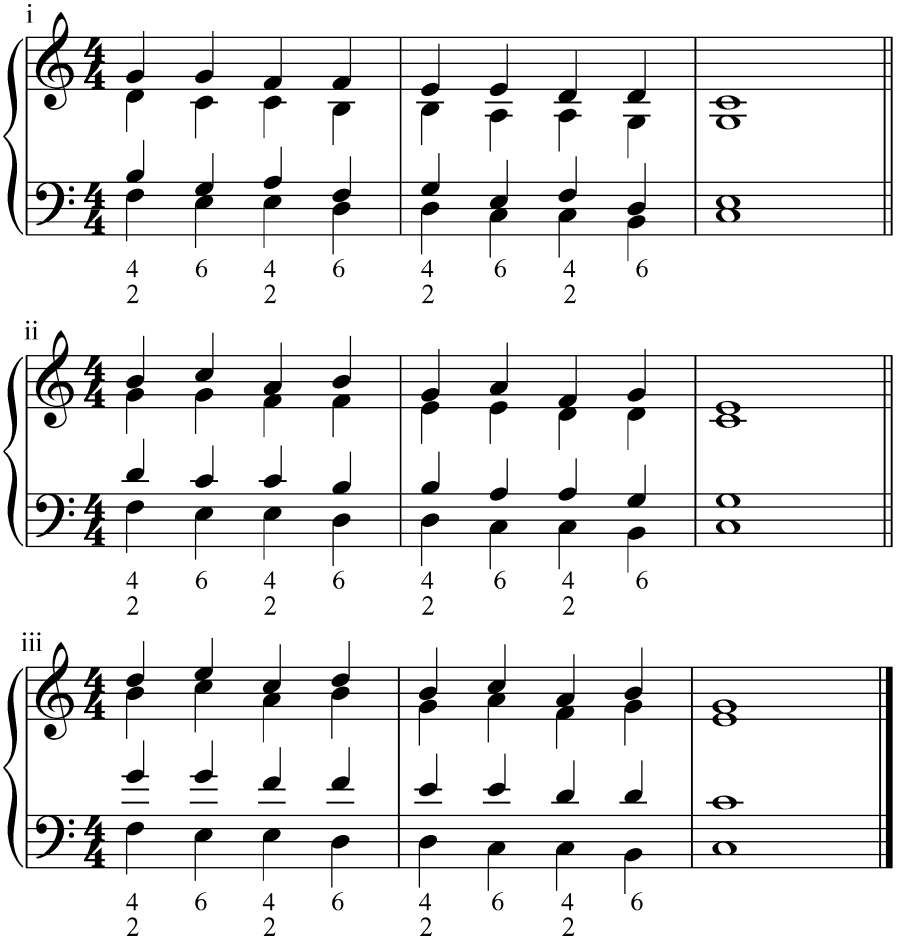
4. Practise the following cadential phrases in all major keys:



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

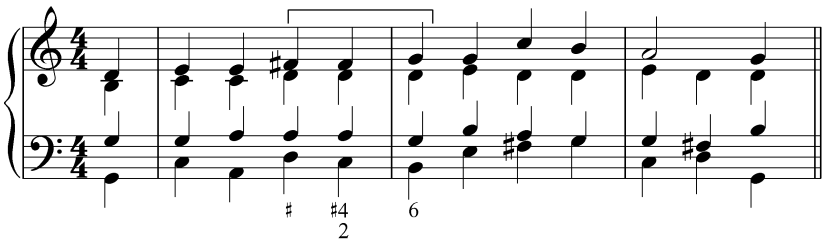


6. Play the following sequences in all major keys. They begin on the dominant-7-chord; thereafter the 2-chord occurs on other degrees of the scale as well.

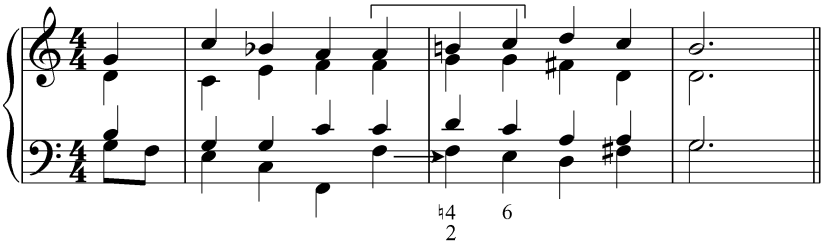


7.* Repeat ex.4-6 with a solo stop and pedals.

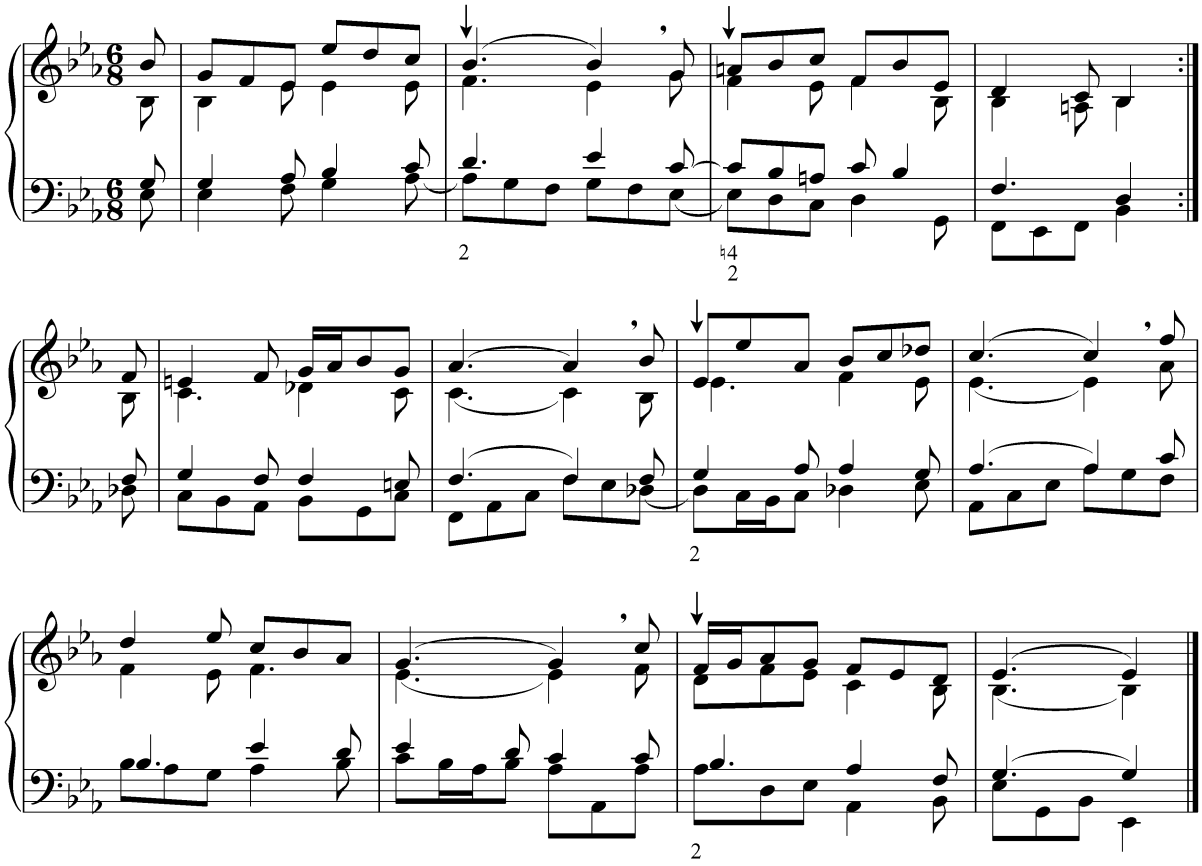
In the above sequences, the 2-chord falls on the strong beat. In Christian Gregor's *Er wird es tun, der fromme, treue Gott* (1784) the 2-chord occurs initially on the fourth beat:



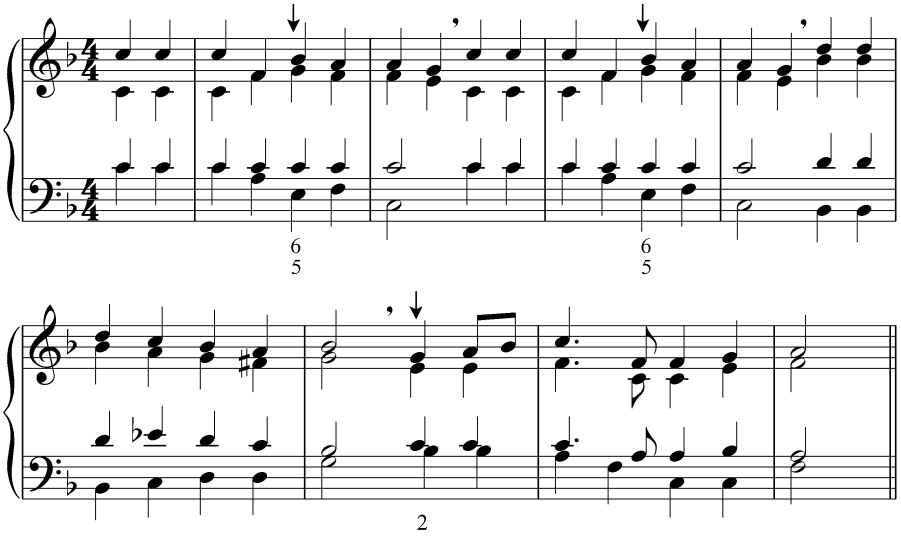
In the modulation to G major, the bass passes from the dominant triad to the 1st inversion of the tonic triad (compare ex.4.ii). In between, we hear the 3rd inversion of the dominant-7-chord. Subsequently Gregor employs the 2-chord on the strong beat:



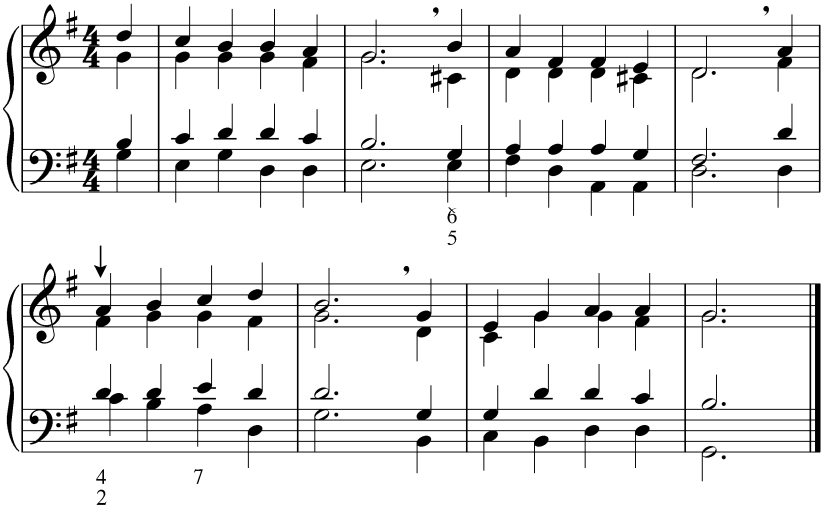
The bass note F on the fourth beat forms the preparation for the accentuated dissonance on the dominant-7-chord, as the key of C major is touched upon. The dissonance resolves downwards to the 6-chord of C, after which the phrase modulates to the key of G major.
This powerful use of the 7-chord on the 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:



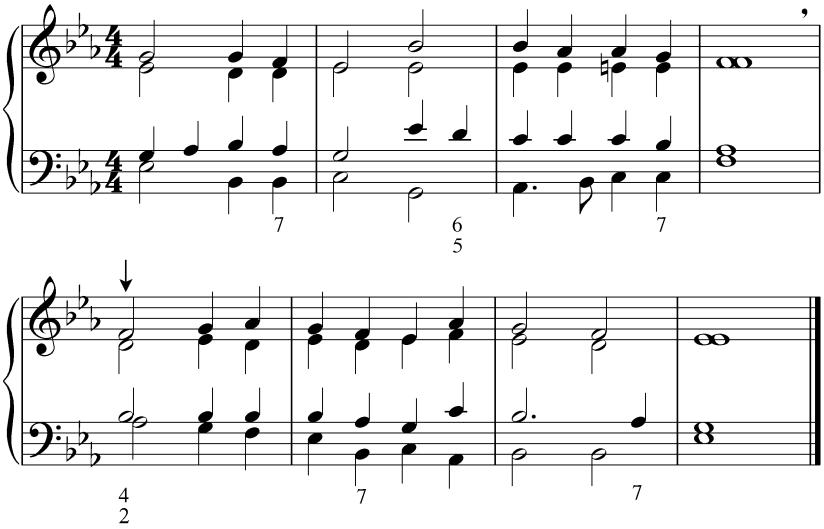
In an often simplified form, we find the same progressions in 19th-century hymns. Thus Bach's great advocate Mendelssohn, in the well-known hymn adapted from one of his compositions under the title *Mendelssohn*:



and Leighton George Hayne in *St Cecilia*:

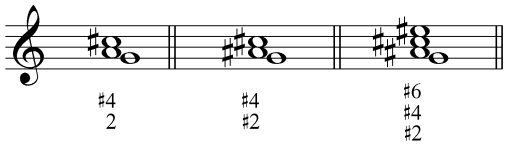


and, last but not least, William Henry Monk in *Eventide*:

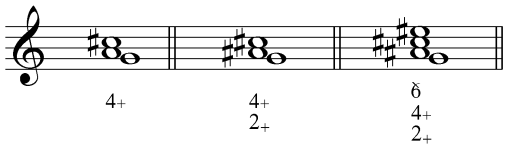


Figured bass

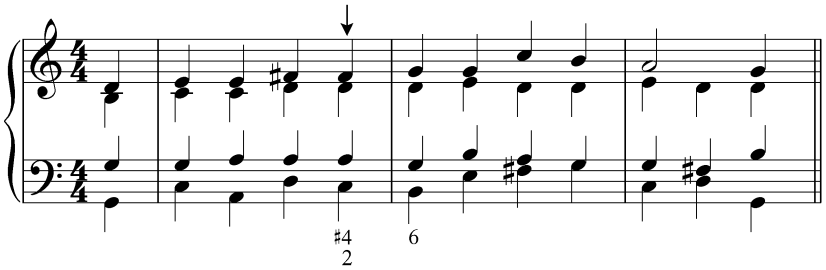
If the 2nd, 4th or 6th are sharpened, a sharp may be written before the figure:



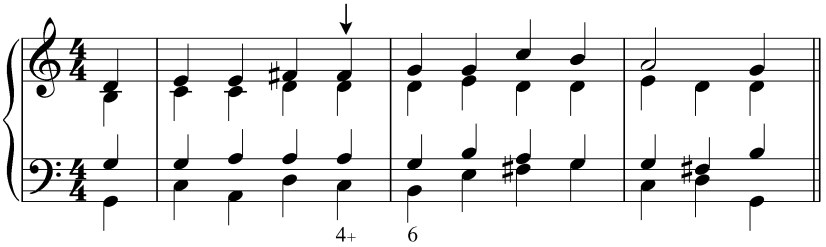
In the ‘shorthand’ system of the Baroque era these sharps were also indicated as follows:



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*:



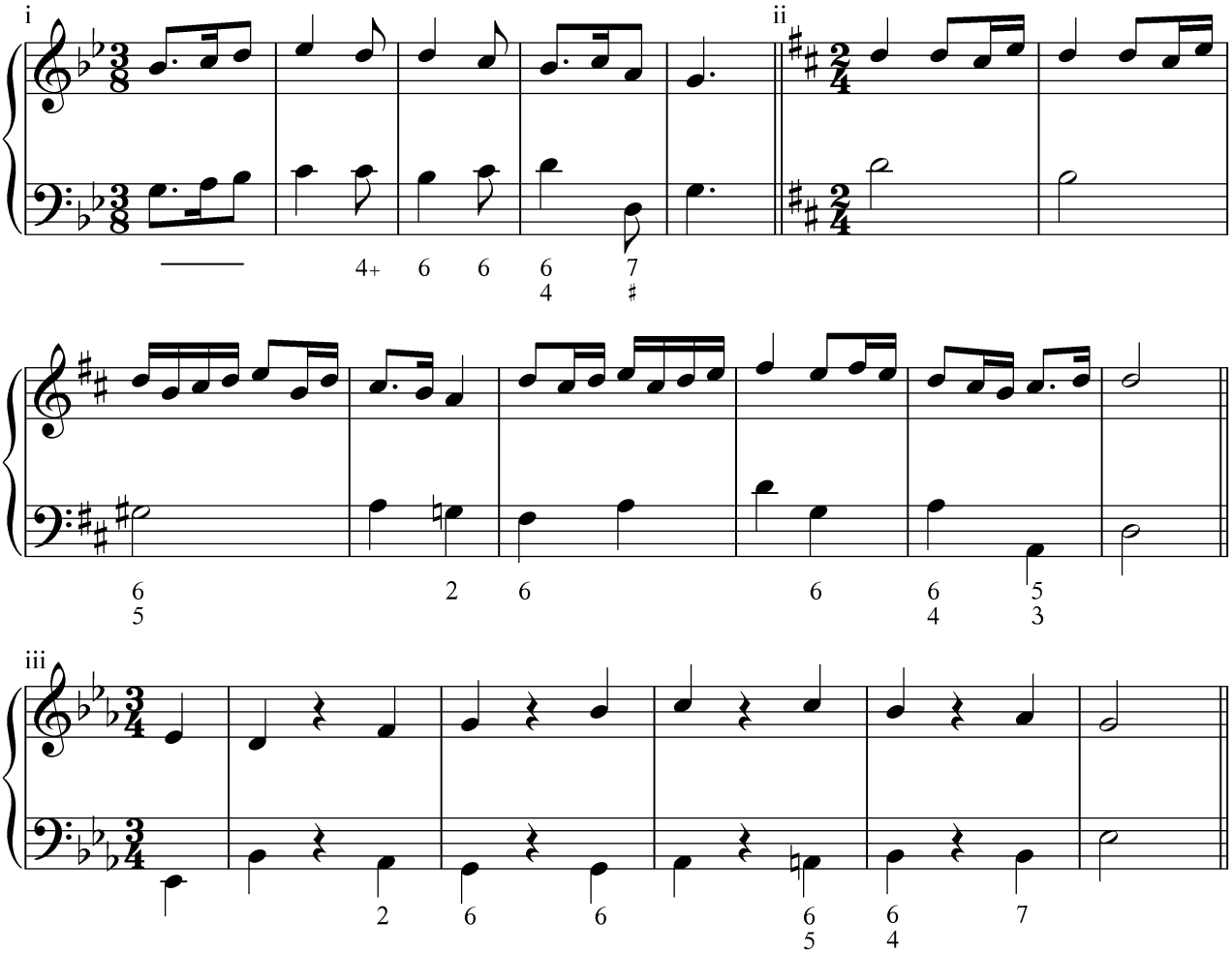
the 2-chord with sharpened 4th can be indicated as follows:

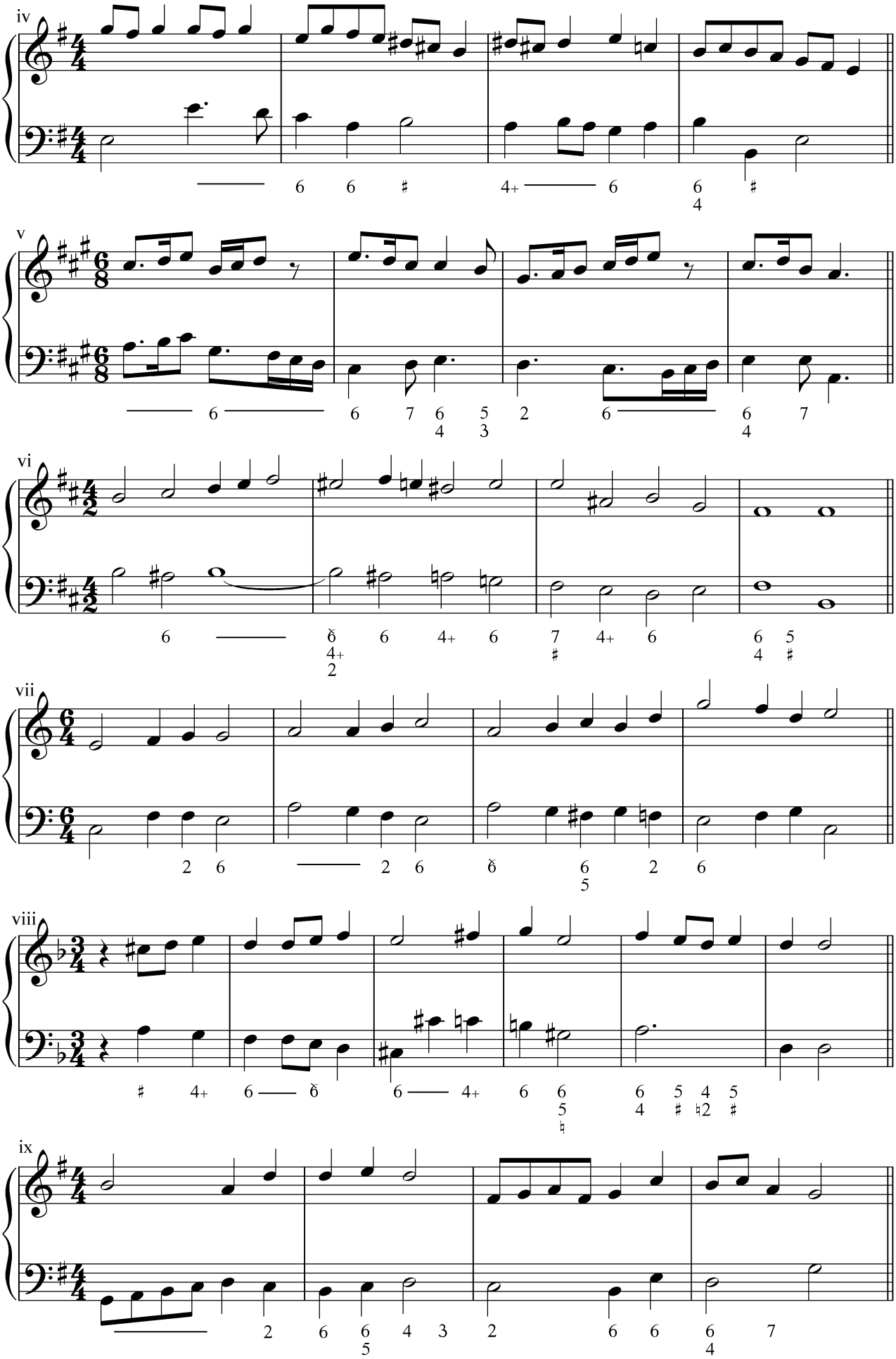


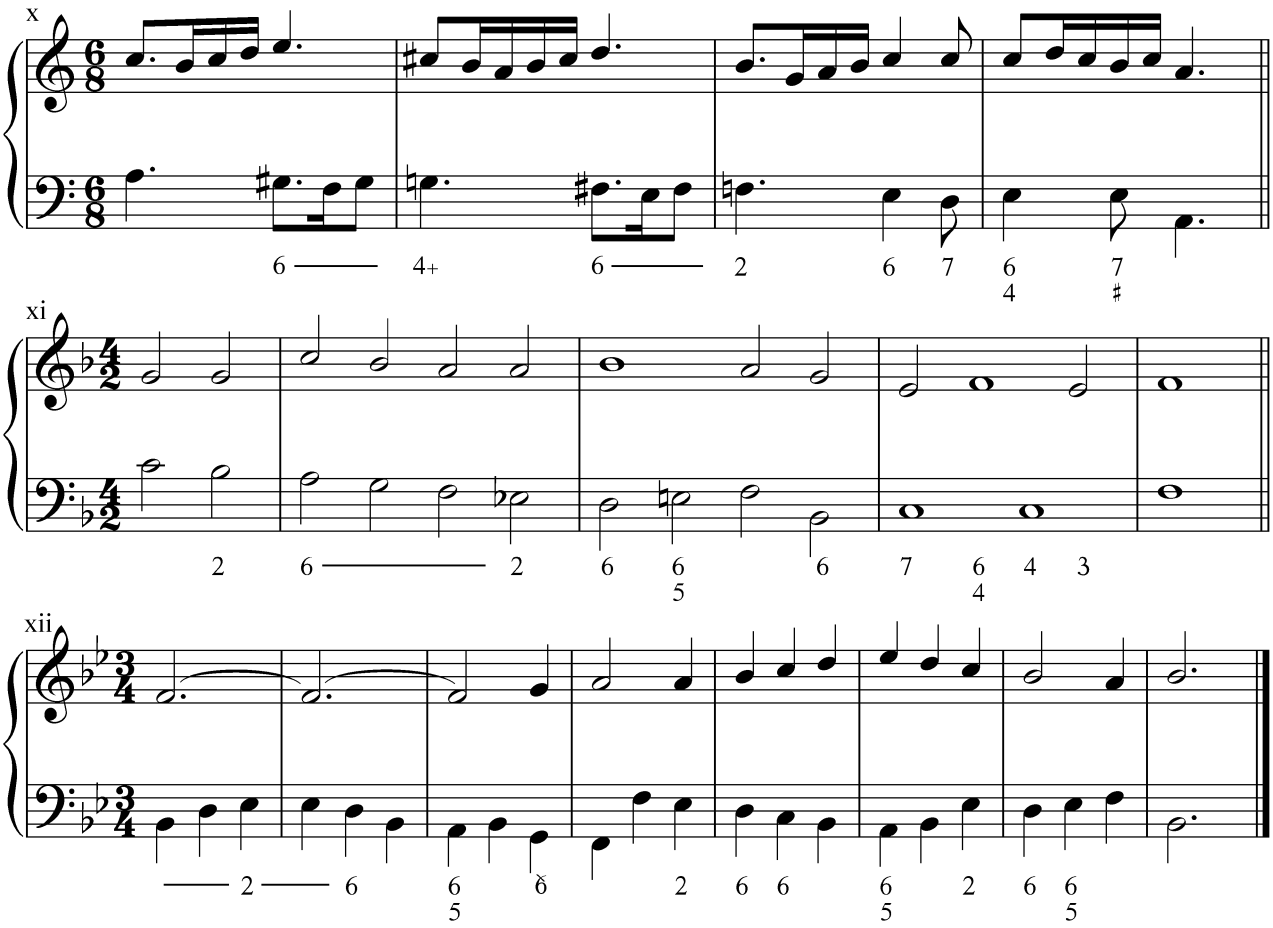
(N.B.: in the 17th century in particular, the 6-4-chord was often indicated only by the number 4; the context usually makes the required chord clear.)
In major keys, these sharpened intervals are indicative of a change of tonality: at the very least a brief allusion to a different key, but often a fully 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:

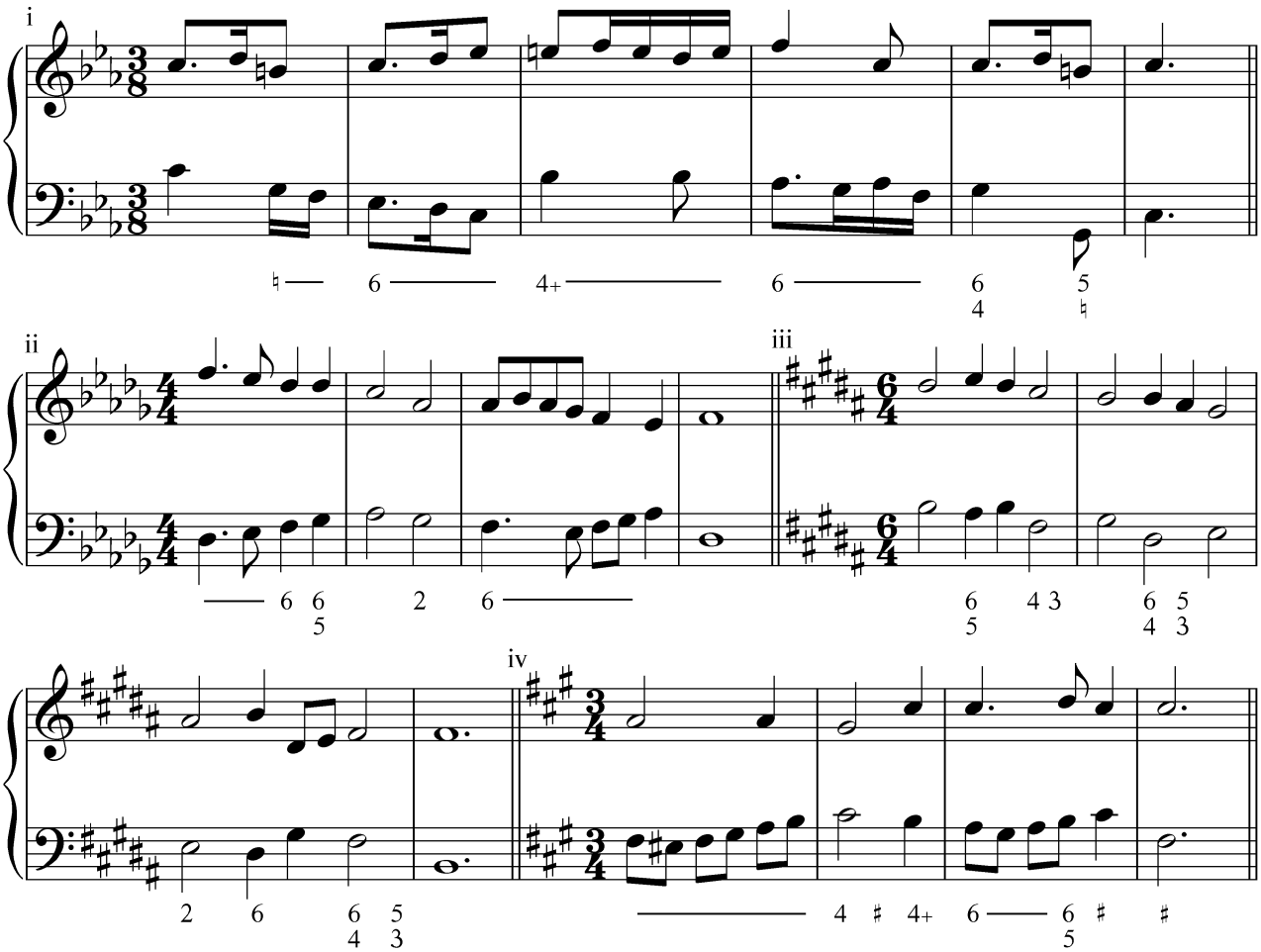
8. Play the following exercises in four parts:

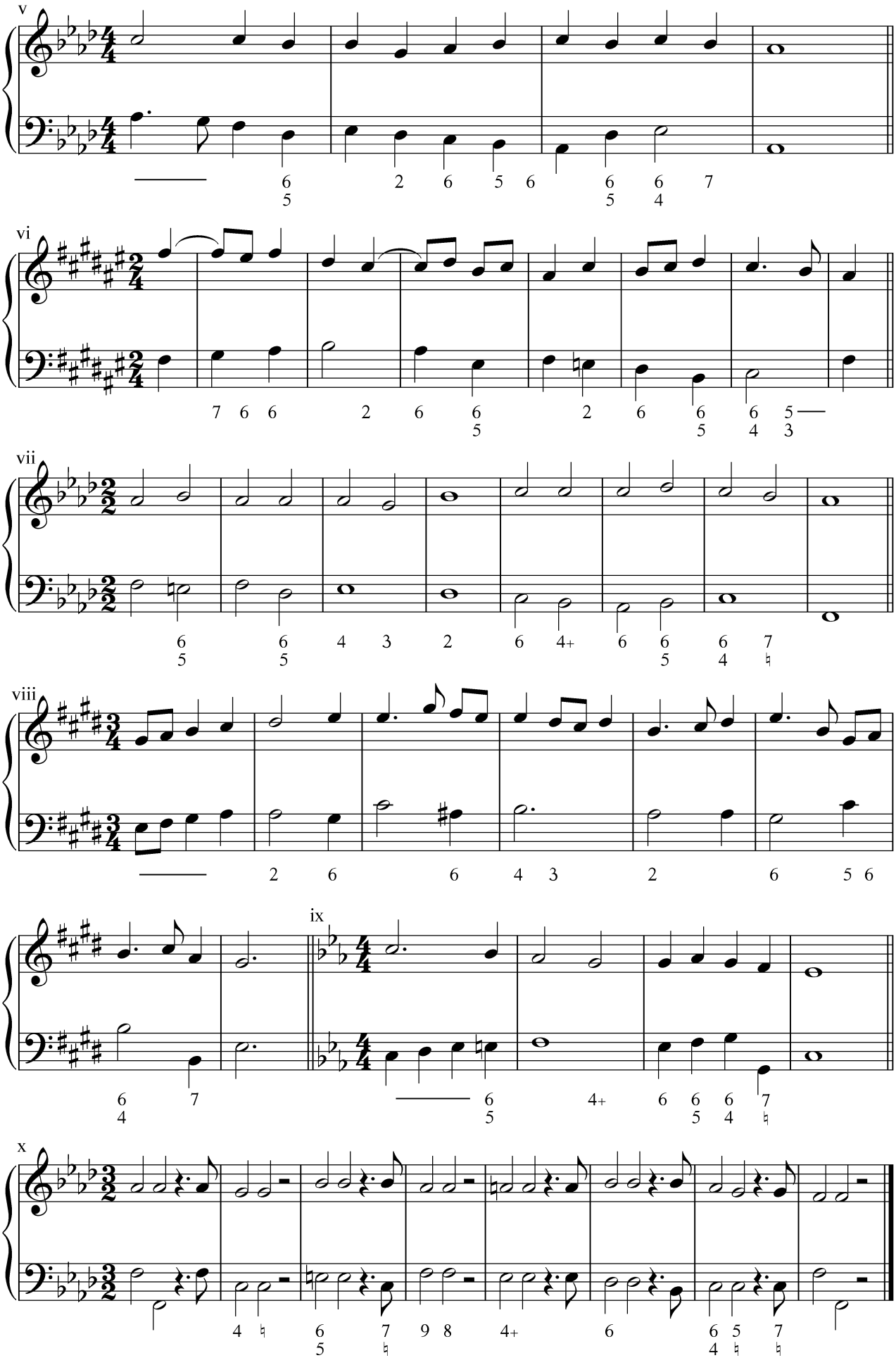



iv
6 6 ♯ 4+ 6 6 ♯
4
v
6 6 7 6 5 2 6 6 7
4 3 4
vi
6 6 4+ 6 4+ 6 7 4+ 6 6 5
2 ♯ 4 ♯
vii
2 6 2 6 6 2 6
5
viii
♯ 4+ 6 6 6 4+ 6 6 6 5 4 5
5 4 ♯ ♮2 ♯
♮
ix
2 6 6 4 3 2 6 6 6 7
5 4



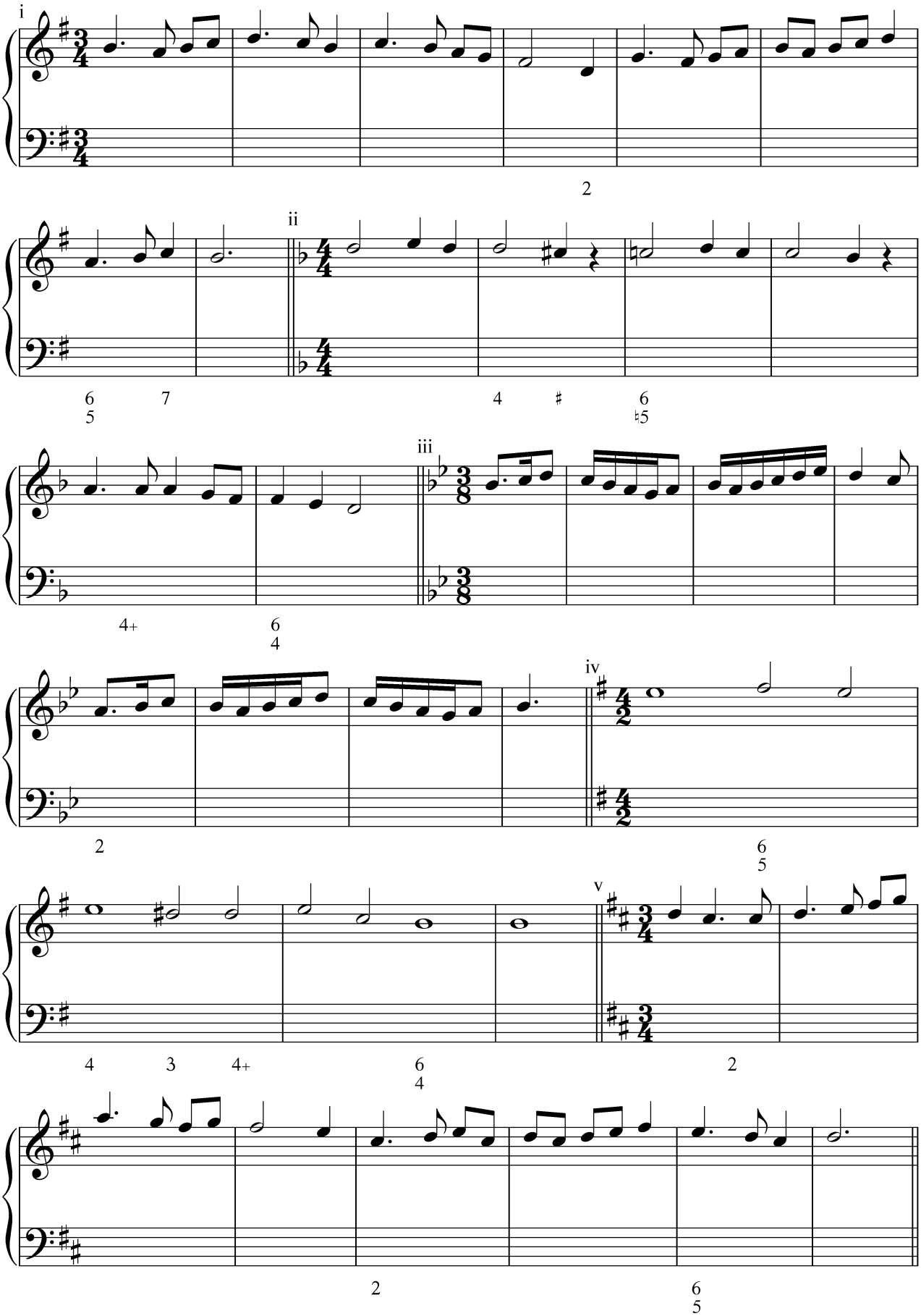
[9]. Play the following exercises in four parts:

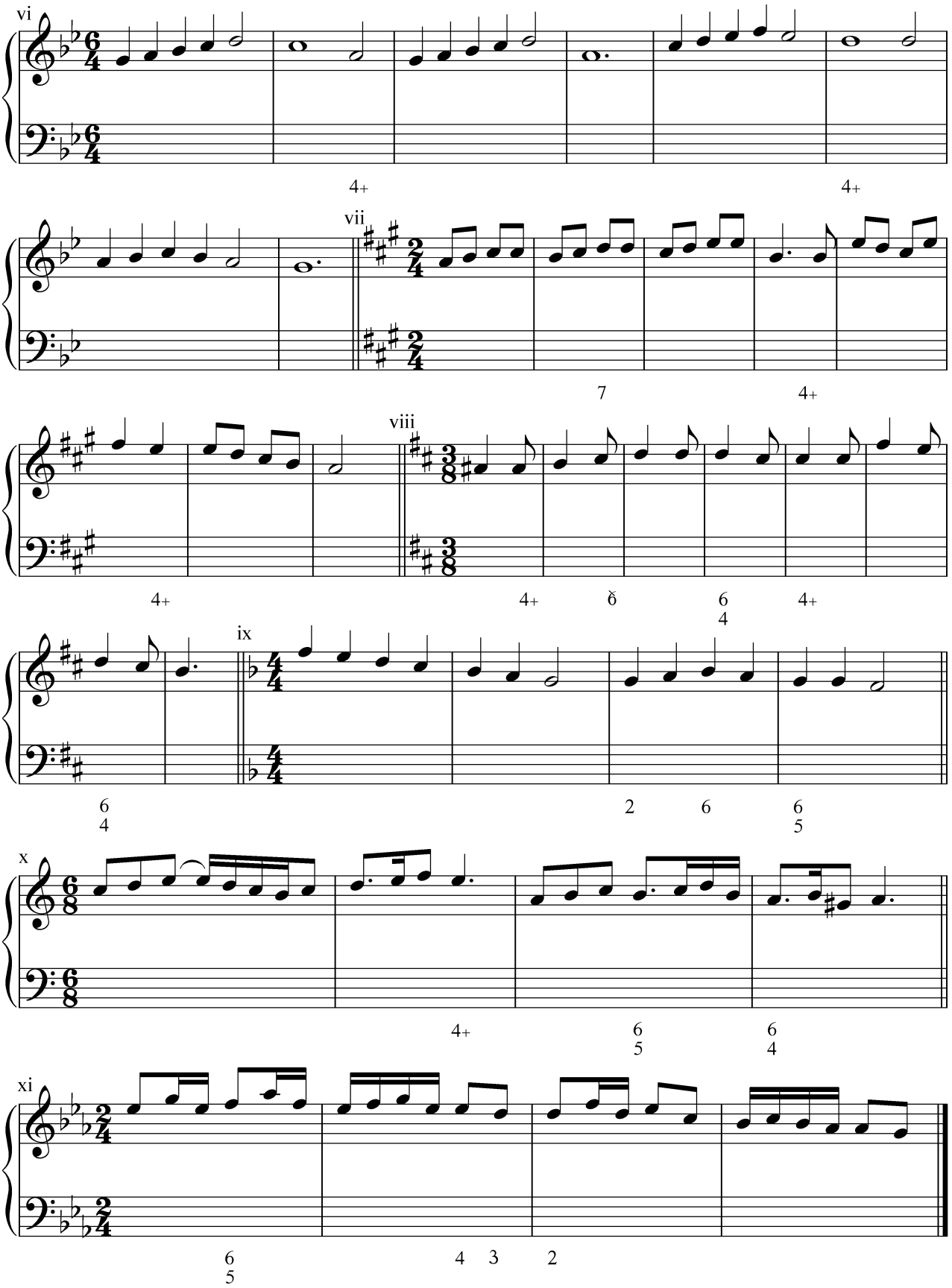



v
vi
vii
viii
ix
x

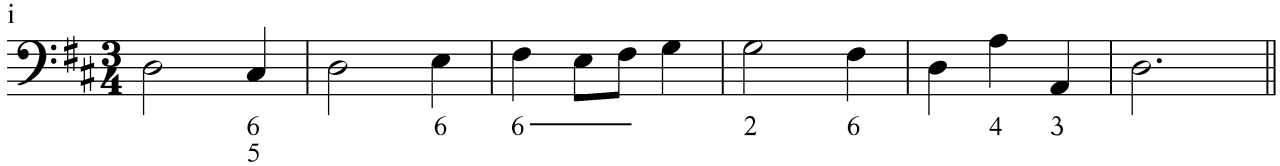
10.* Repeat ex.8 and 9 with a solo stop and pedals.

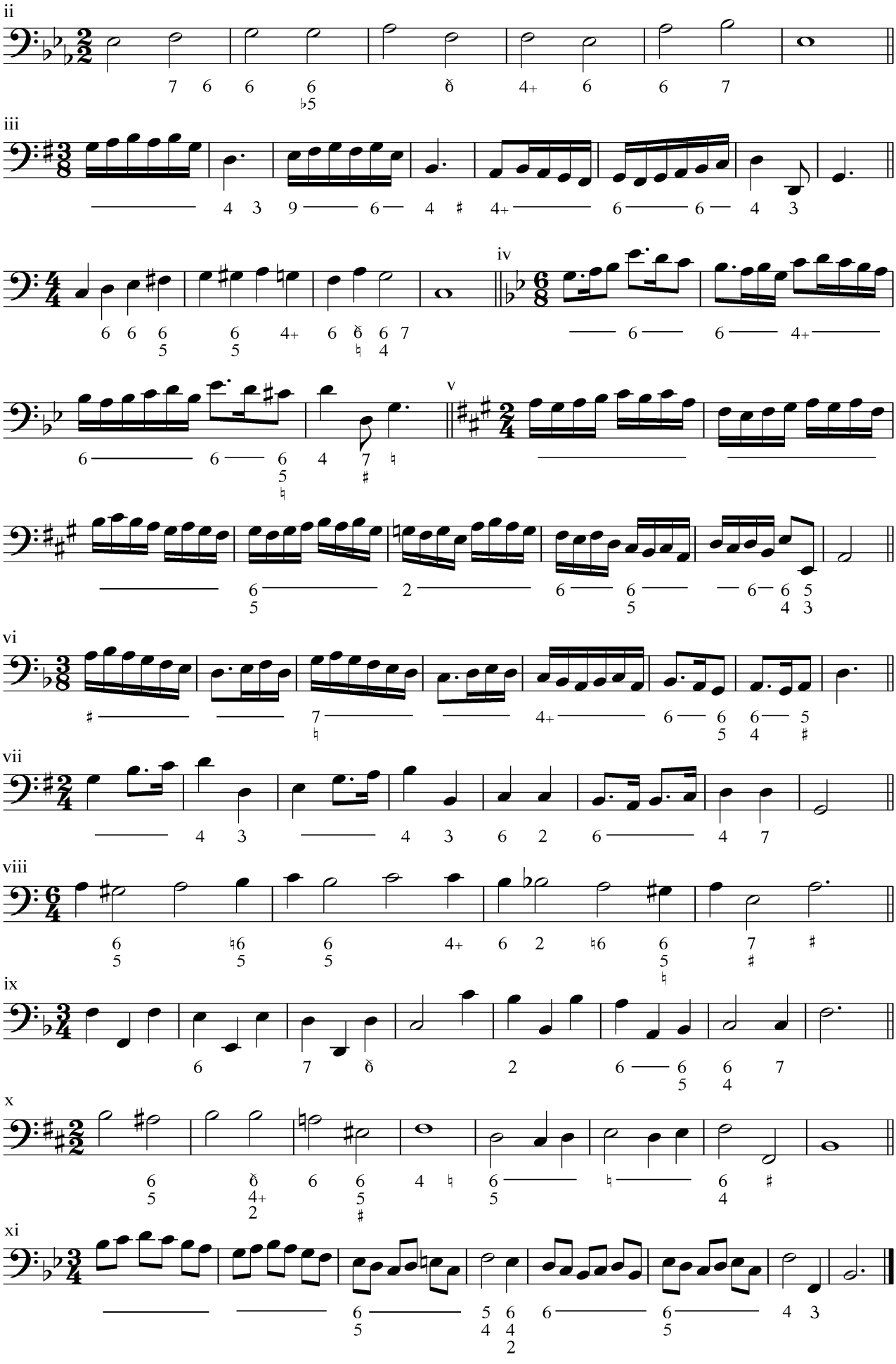
11. Write a bass to the following melodies and play in four parts. Some of the chords are already indicated by figures.





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




ii
iii
iv
v
vi
vii
viii
ix
x
xi

9

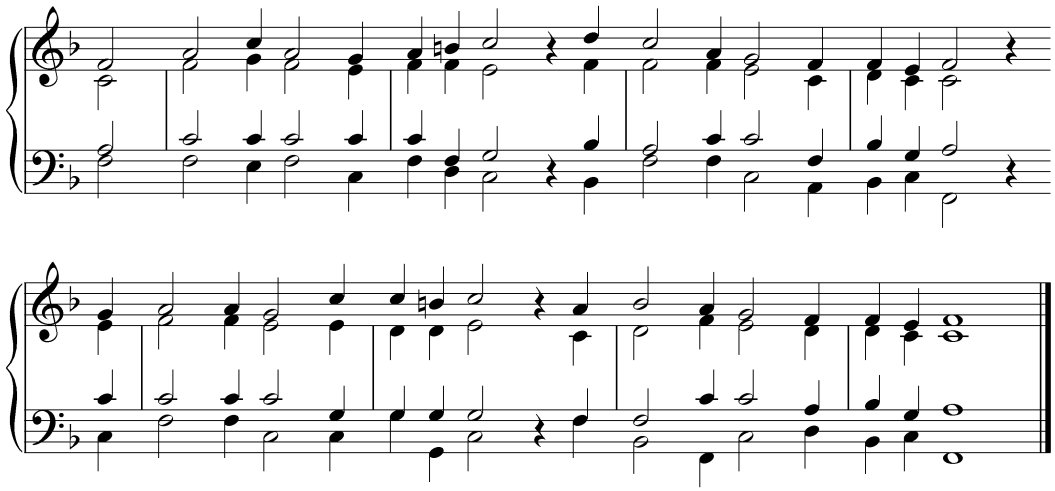
MODULATION

Modulation further considered
The subdominant
The intermediate dominant

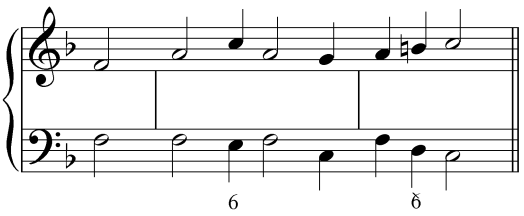
Modulation further considered

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’.

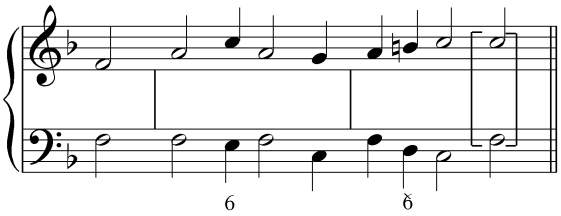
The chorale *Herr Jesu Christ, dich zu uns wend* has already been harmonised with triads in root position (Part I p.80). The following setting was published in Gotha in 1651:



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?

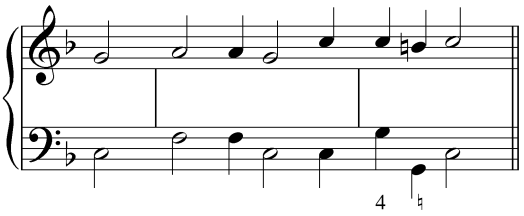


Or would it only sound ‘finished’ if we were to imagine a subsequent return to F?

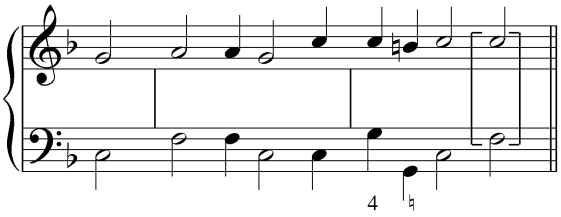


The F chord does seem to complete the phrase, confirming the tonic key by means of the V-I cadence. Despite the move from B natural to C in the melody, therefore, there is no mention of a modulation to the key of C major, neither is there a V-I cadence in that key.

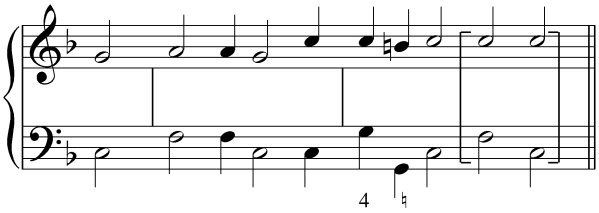
Let us examine the third phrase in the same manner:



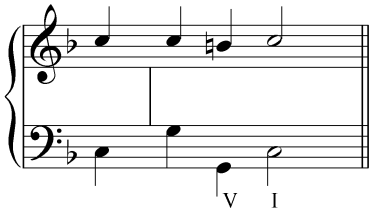
or:



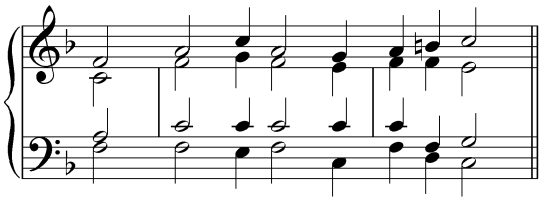
Here, the phrase does sound ‘finished’ on the final chord C. The added F chord seems slightly lost; what is more, this F chord really requires its own sequel - back to C!



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:



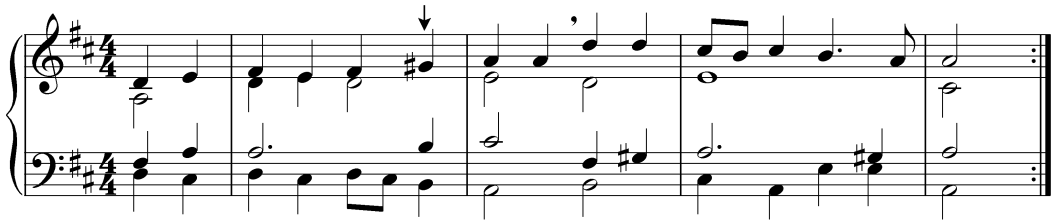
This differs essentially from the first phrase, where the dominant of the key of C was absent in the bass:



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**.

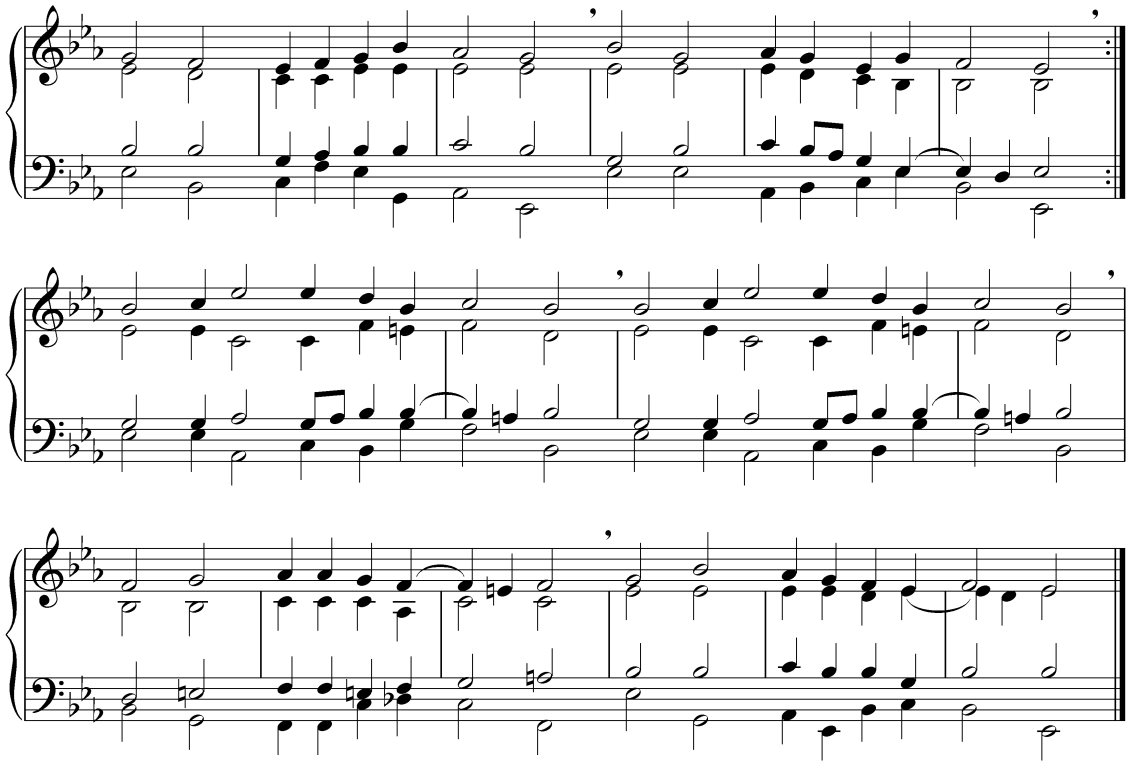
As we are beginning to see, ‘modulation’ is a somewhat elastic term. In the most modest of instances, a note that is strange to the key may briefly allude to another key without further consequences. Of quite different magnitude are the modulations of the classical sonata form of composers such as Haydn 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:

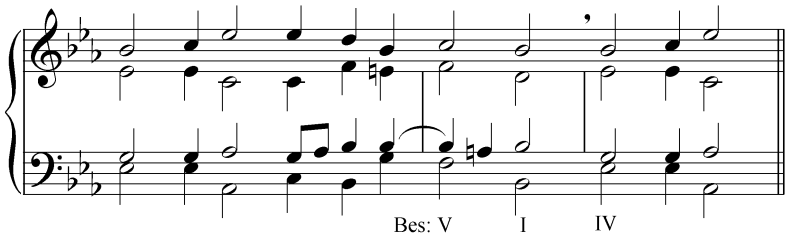


Our examples illustrate different kinds of ‘modulation’, varying from a brief encounter with a different key to a fully fledged change of key; only the latter deserves to be called a modulation. In all cases, there is mention of notes that are strange to the key, and which, depending on the situation,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

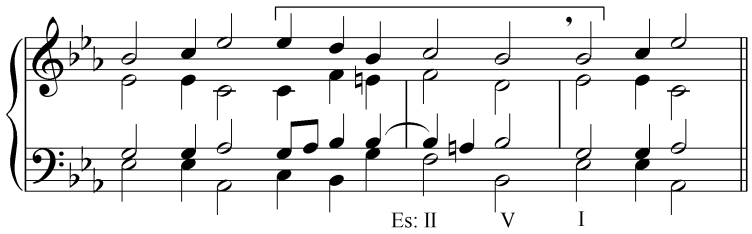
In this context, let us examine Johann Crüger’s *Schmücke dich, o liebe Seele* (1649):



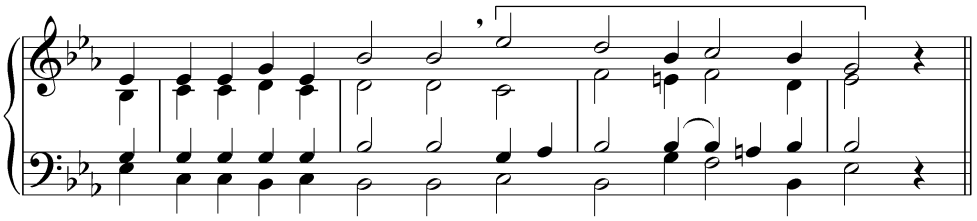
The second system features two modulations to the key of B flat major. In both cases, the cadence progression is identical. The context, however, is different, and so is the effect. After the first cadence in B flat, Crüger returns directly to the key of E flat. In retrospect, as it were, the question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



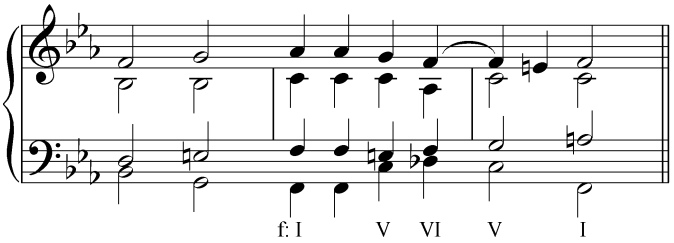
or rather, despite the altered chords, it is an imperfect cadence in E flat major:



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:



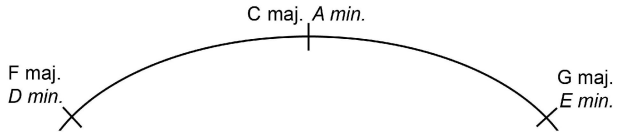
At the beginning of the third system of *Schmücke dich*, Crüger adopts a different approach. He repeats the B flat chord, and rather than returning to the key of E flat, he modulates to F minor, as his own melody indeed requires:



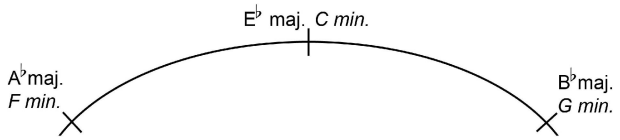
But then Crüger has a surprise in store as he ends in F major instead of F minor! We hear the familiar *Tierce de Picardie* (see Part I ch.14), of which he seems to have been fond.

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:

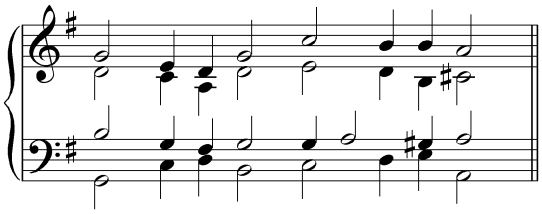


In respect of the key of C, the key of the dominant is a 5th higher and that of the subdominant a 5th lower. We can turn the circle of 5ths to place the key of Crüger's *Schmücke dich* at the top:

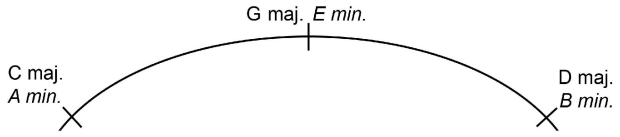


The 'upper 5th' takes us to B flat major, the key of the dominant, while the 'lower 5th' takes us to A flat major and the parallel key of F minor.

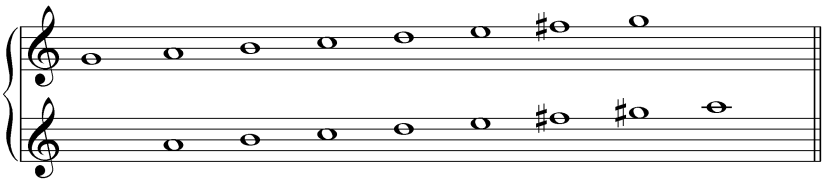
Let us stay with Crüger. His *Sei Lob und Ehr dem höchsten Gut* (1653) begins as follows:



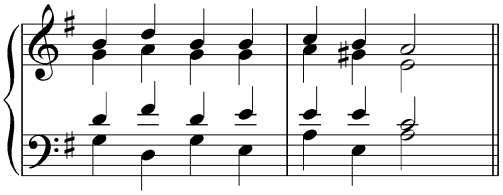
Within this short opening phrase, Crüger 'modulates' from G major to A minor! (Here once again is the *Tierce de Picardie*: the C in the soprano and bass leads us to expect a cadence in A minor.) If we think <u>via</u> the subdominant, the key of A minor is less far from the key of G than one might think:



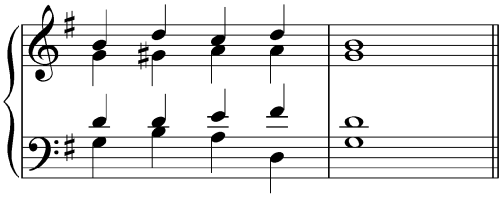
Moreover, the lowered degree VI in the harmonic minor scale (F in the key of A minor) was not taken for granted during the transition from the medieval modes to the tonal system.[+] Where degree VI is not lowered, the <u>harmonic</u> minor scale is identical to the rising <u>melodic</u> minor scale!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



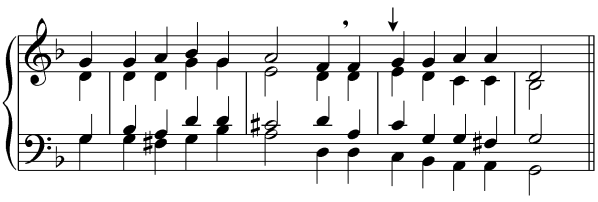
The only difference in the actual notes is G sharp; a modulation from G major to A minor is therefore quickly made:



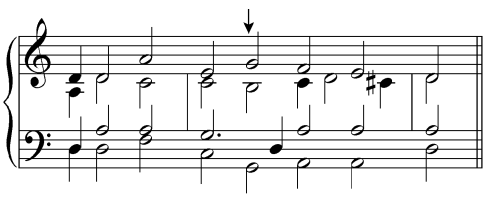
and a 'brief encounter' with A minor is even quicker:



+ 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*:

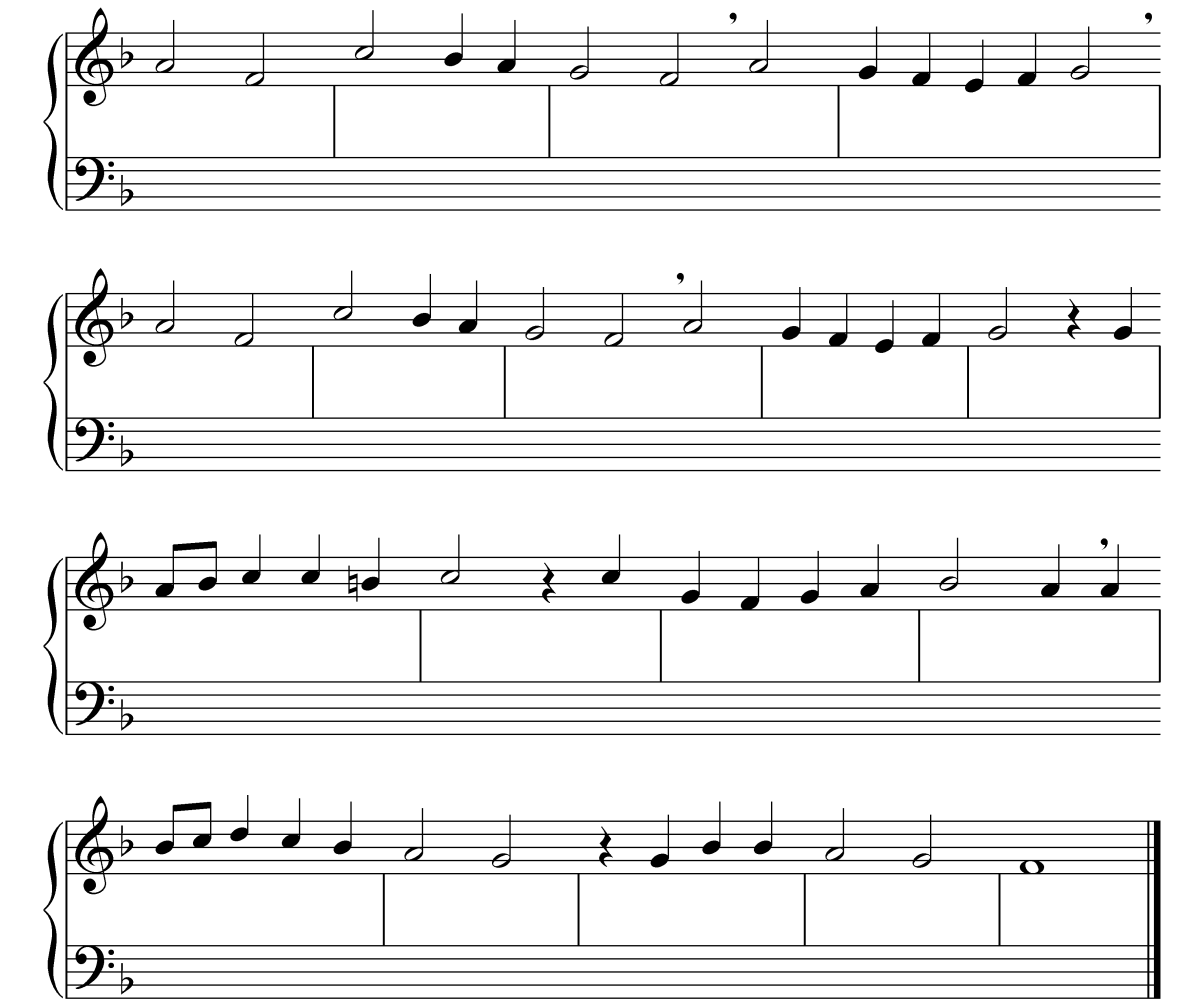


In comparison with modern practice, a flat is lacking in the key signature to indicate the lowered degree VI. At the points indicated, the major triad occurs on degree IV instead of the minor triad.

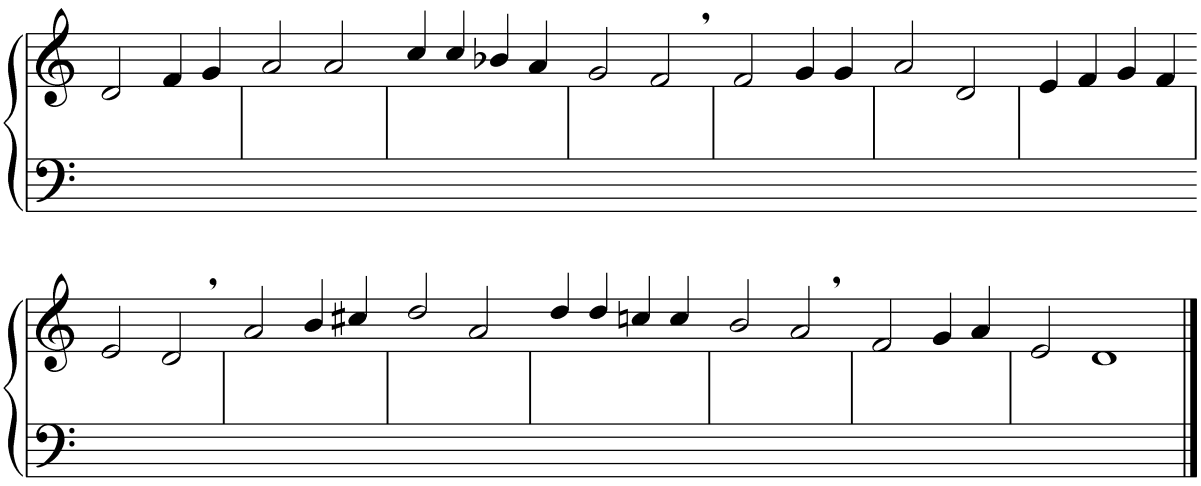
EXERCISES:

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.

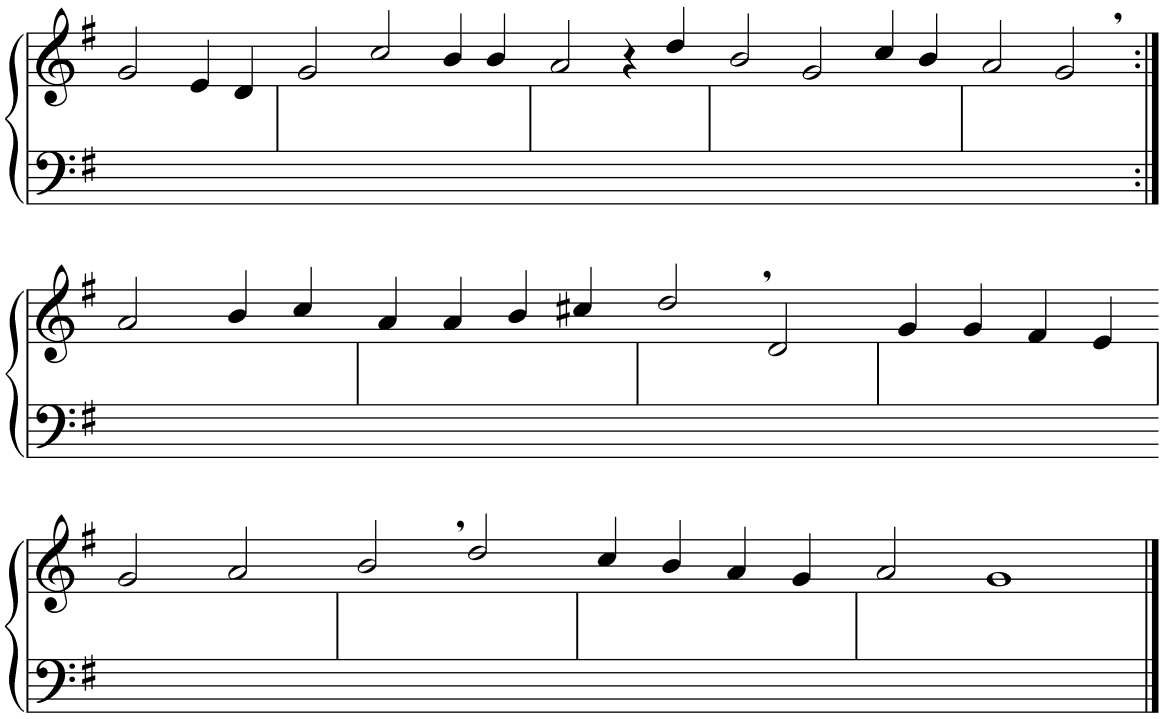
(a) *Zeuch ein zu deinen Toren*



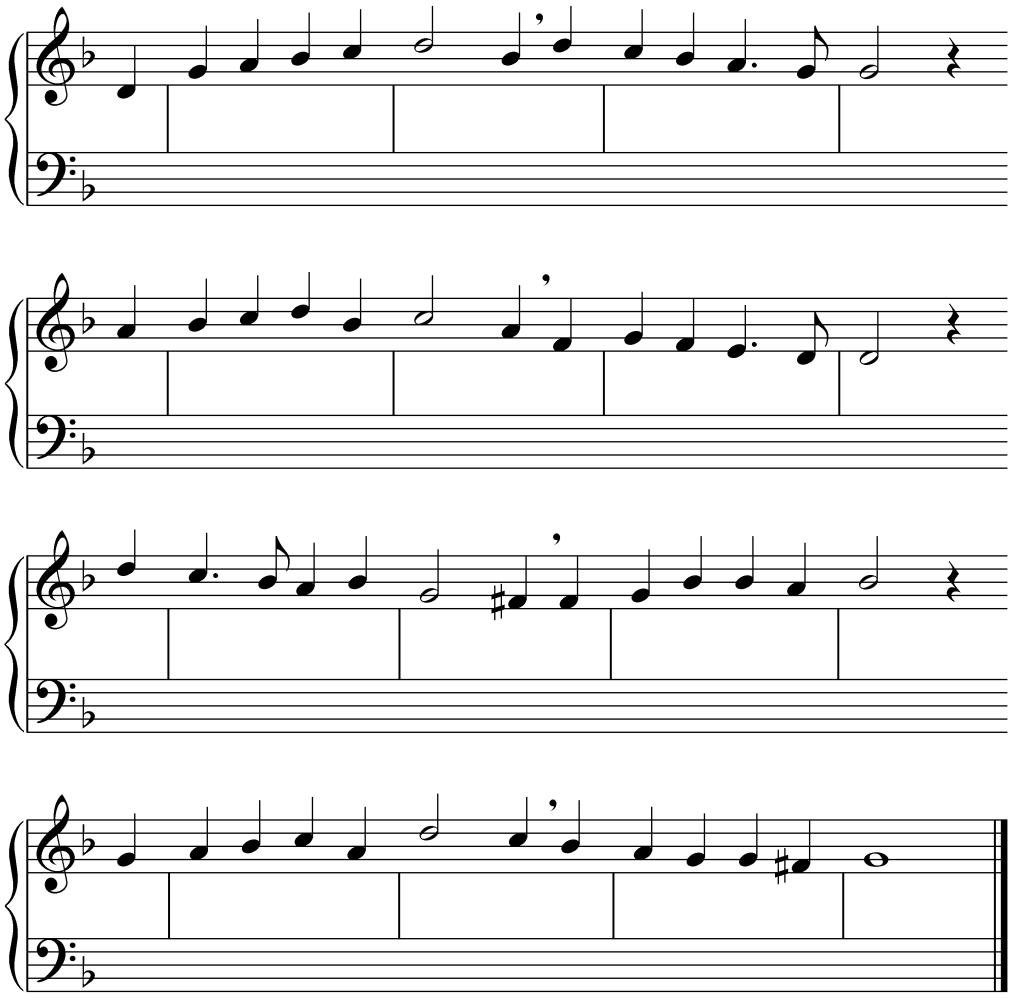
(b) *Lobet den Herrn und dankt ihm seine Gaben*



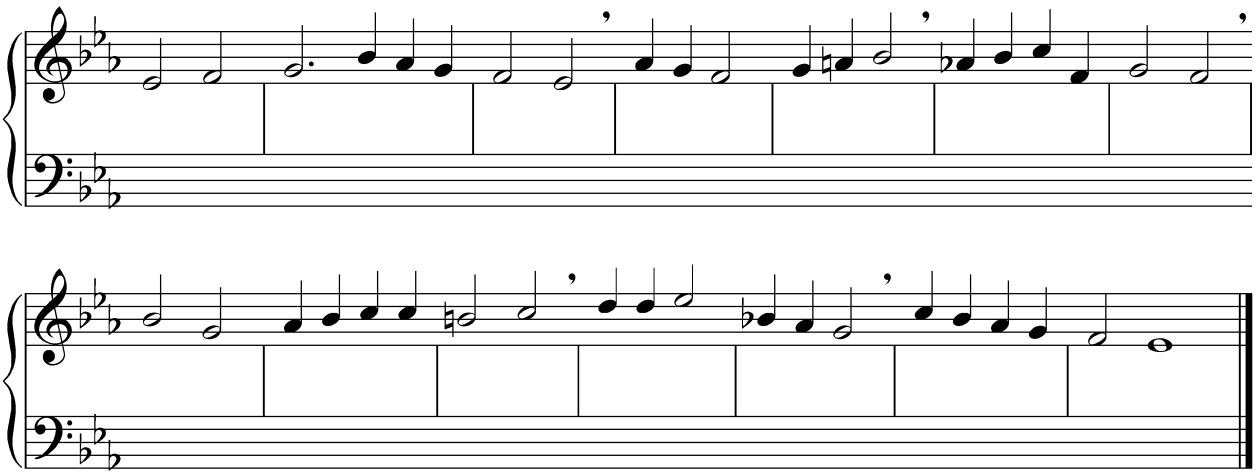
(c) *Sei Lob und Ehr dem höchsten Gut*



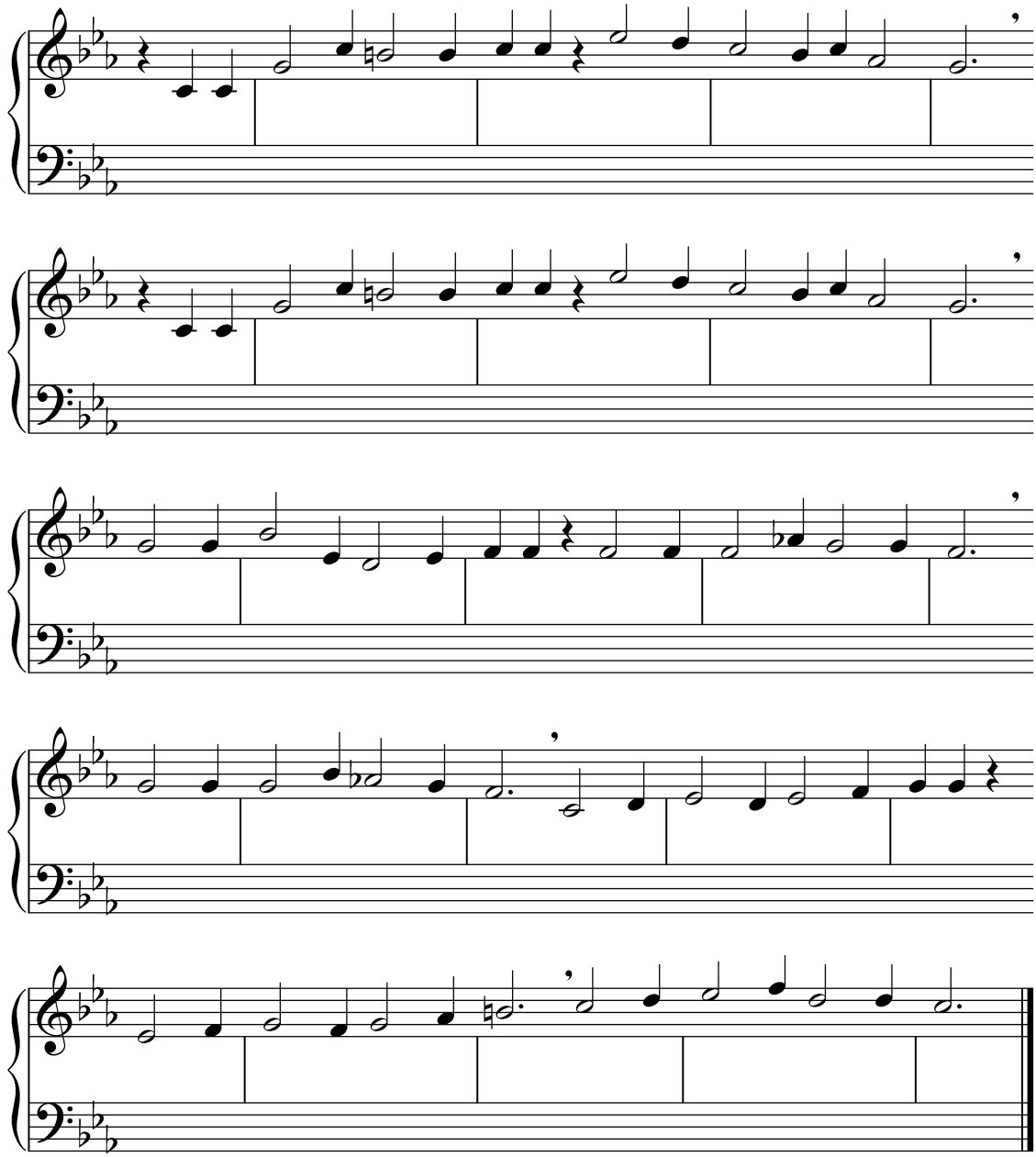
(d) *Ik hoor trompetten klinken*



(e) *Fröhlich soll mein Herze springen*



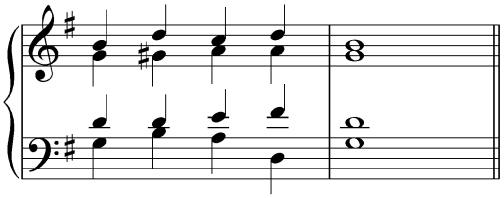
(f) *Sollt ich meinem Gott nicht singen*



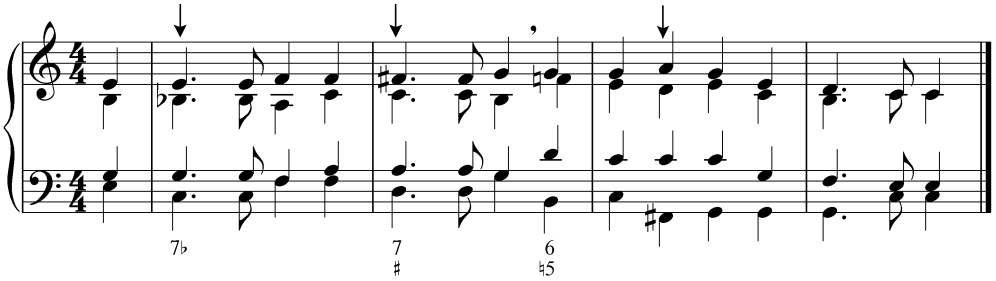
2. Practise the following transpositions: *Zeuch ein zu deinen Toren* in D and A major; *Lobet den Herrn* in C and E minor; *Sei Lob und Ehr* in F and B flat major; *Ik hoor trompetten klinken* in F and A minor, *Fröhlich soll mein Herze springen* in C and G major, *Sollt ich meinem Gott nicht singen*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

The intermediate dominant

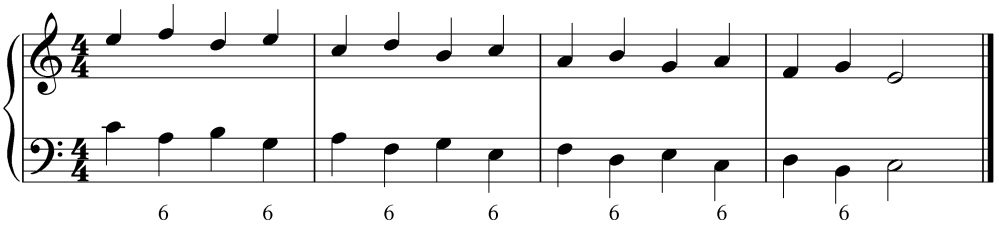
The 'brief encounter' in the previous example (p.102) is the diminished triad (in the 1st inversion) on the altered degree I (G sharp):



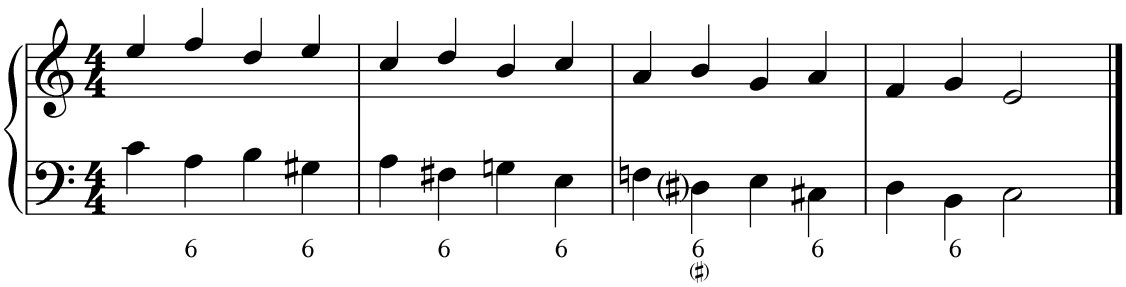
The alteration G sharp could be viewed as the leading note in the key of A major or minor, which the third chord might well suggest. However, this third chord is none other than the triad on degree II in the key of G major, and this explains why we experience the second chord as nothing more than a brief 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, as it were. But the root E is absent, and this intermediate dominant is not strong enough to effectuate a fully fledged modulation without the help of other 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:

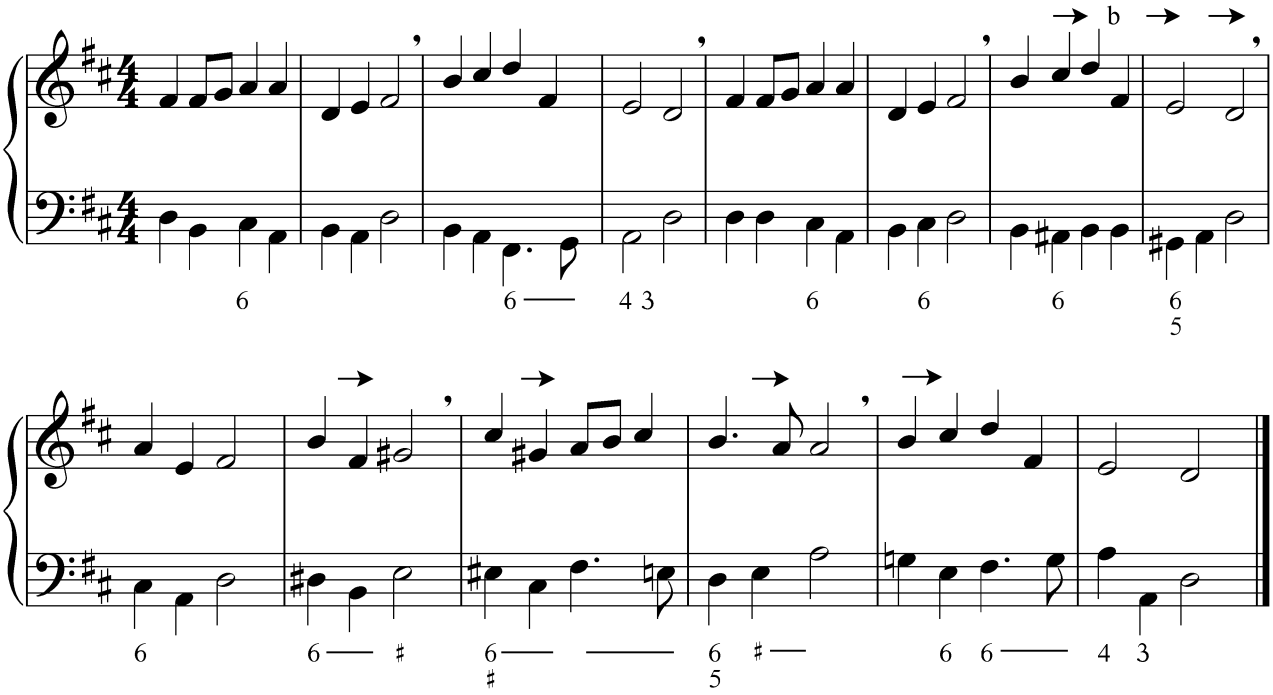


EXERCISES:

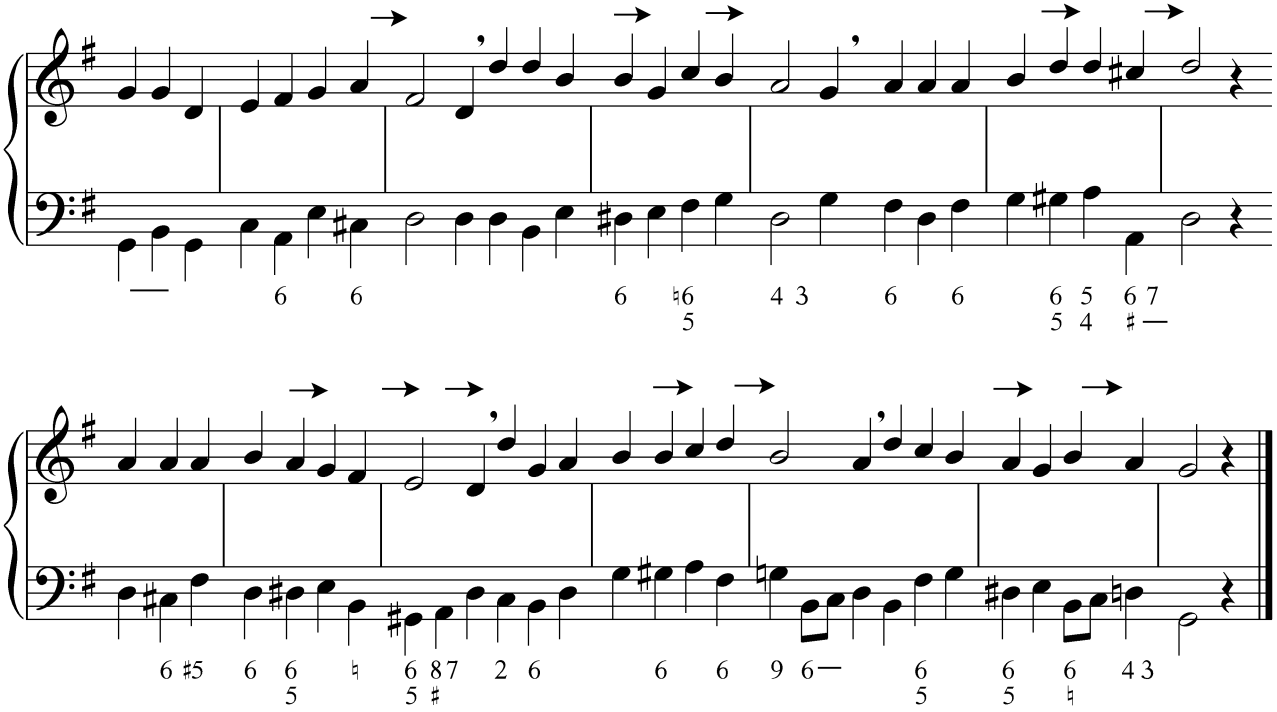
3. Practise the above sequence in four parts in all major keys. The sequence begins and ends with the 3-position on the tonic. On the strong beats, the descending scale of the key is in the bass; on the weak beats, the bass jumps down by a minor 3rd.

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.

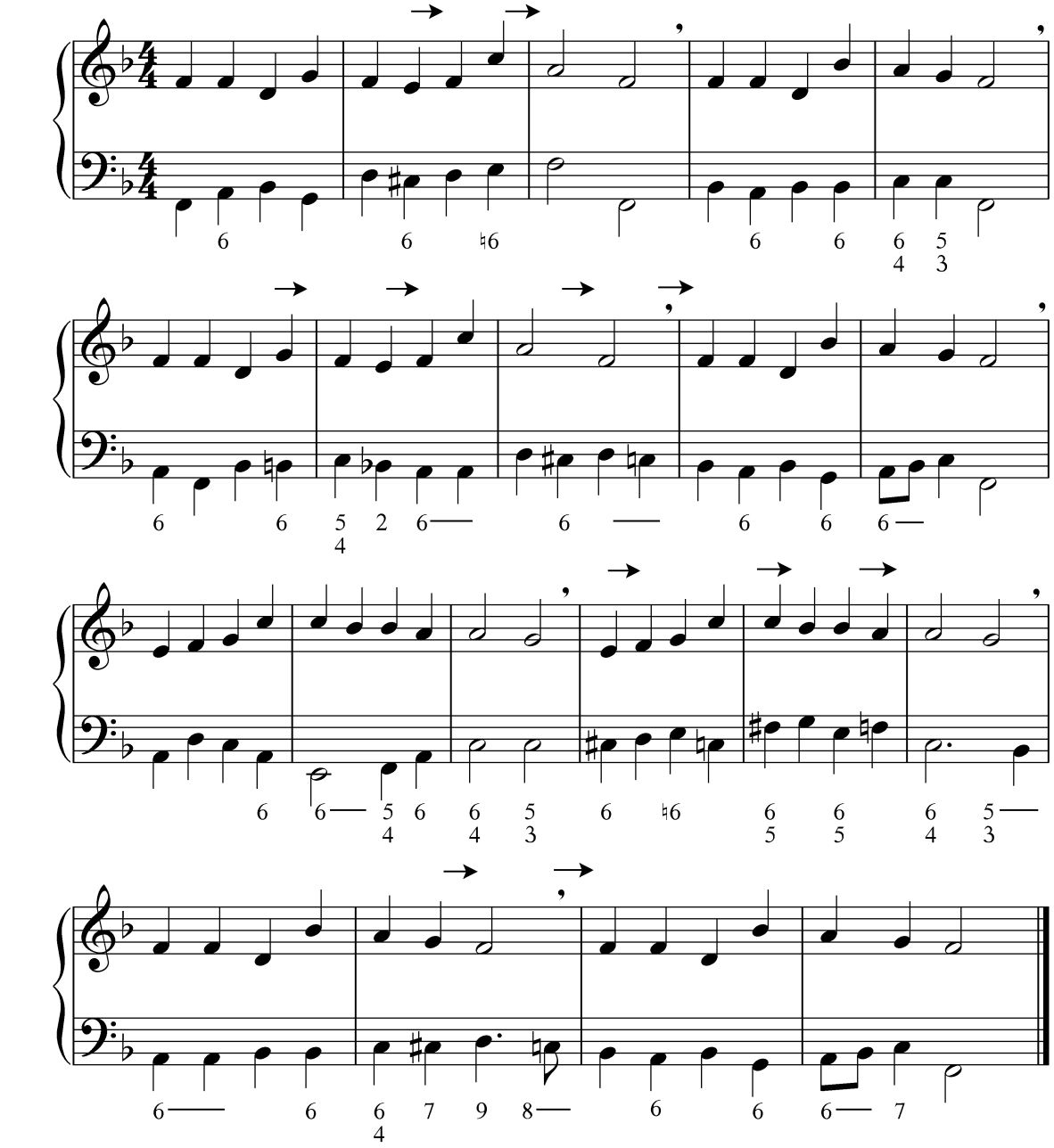
(a) *Straf mich nicht in deinem Zorn*



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

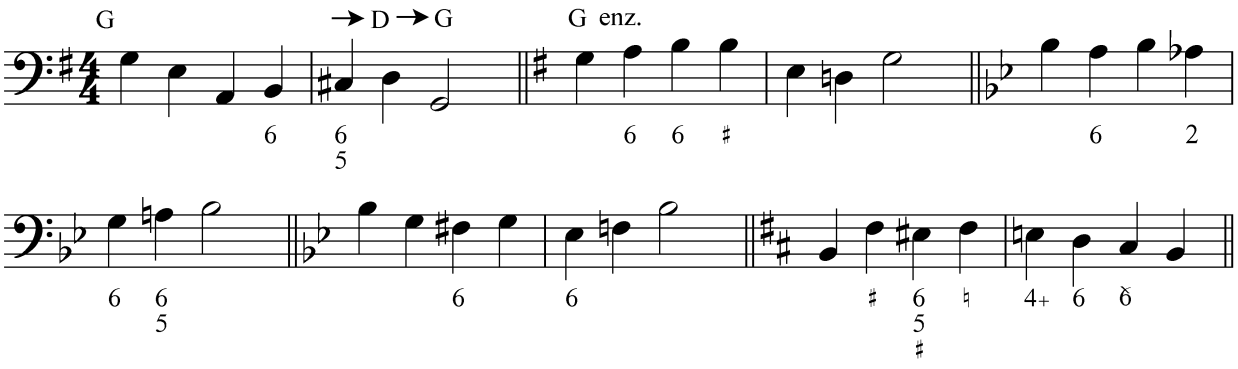


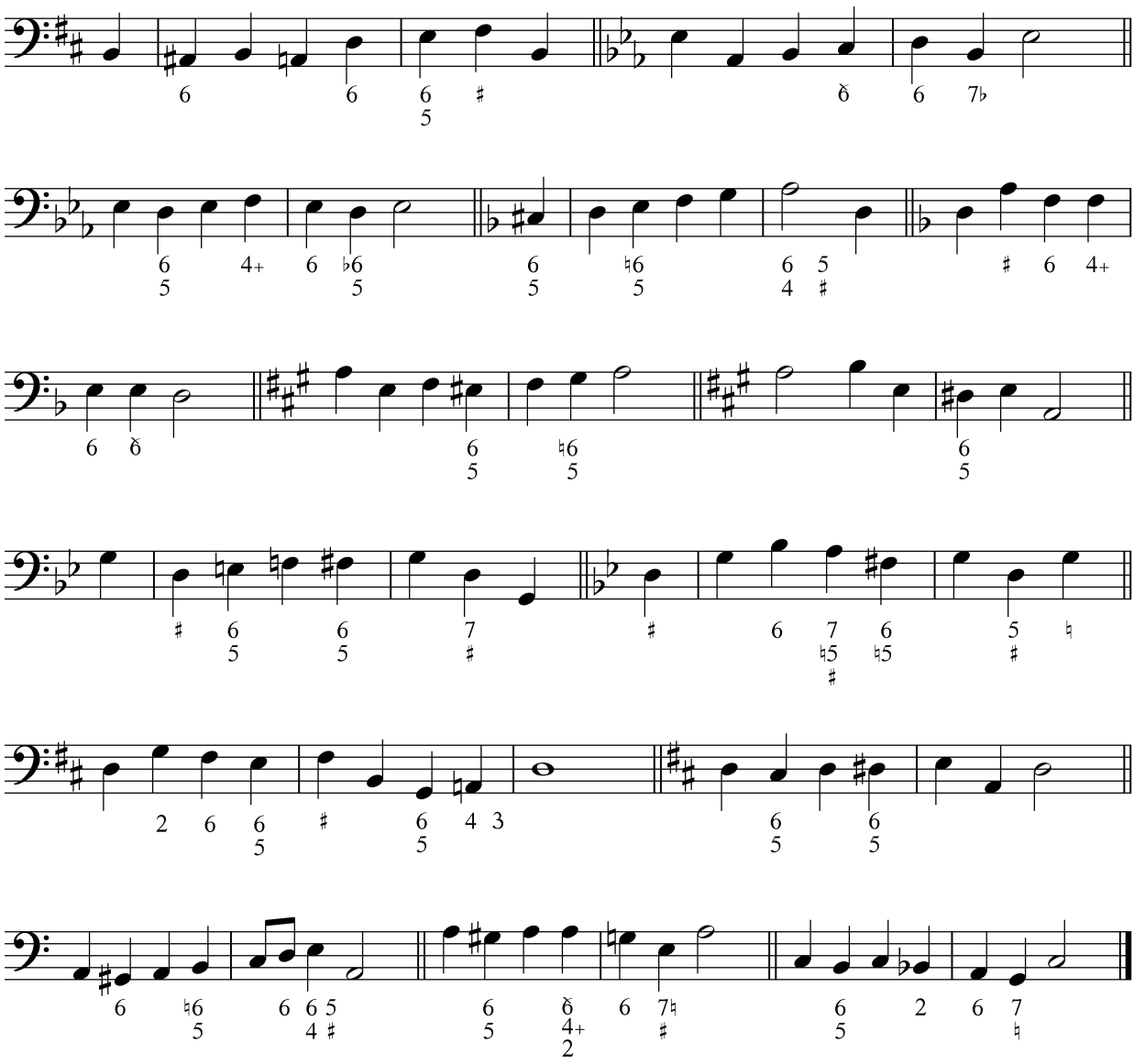
(c) *Herr und Ältster deiner Kreuzgemeine*



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.

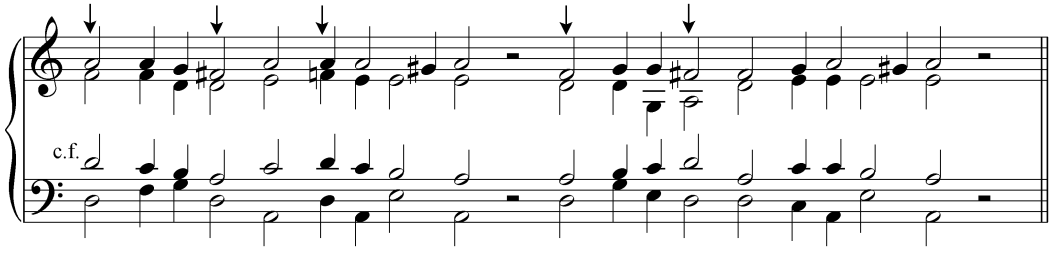
6. In the following phrases an intermediate dominant alludes to a new key. Fill in the keys as indicated and play the phrases in different positions.



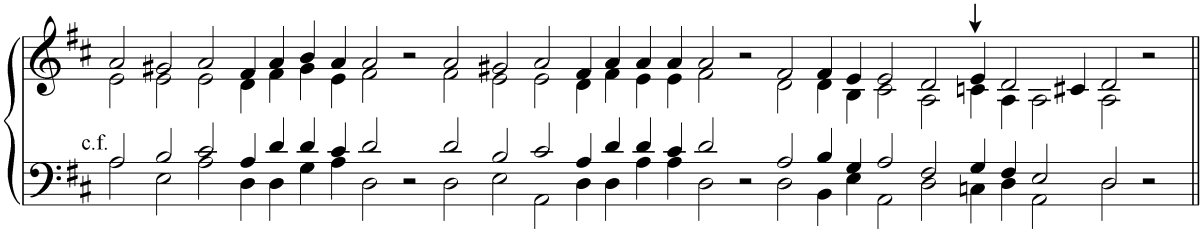


Other accidentals

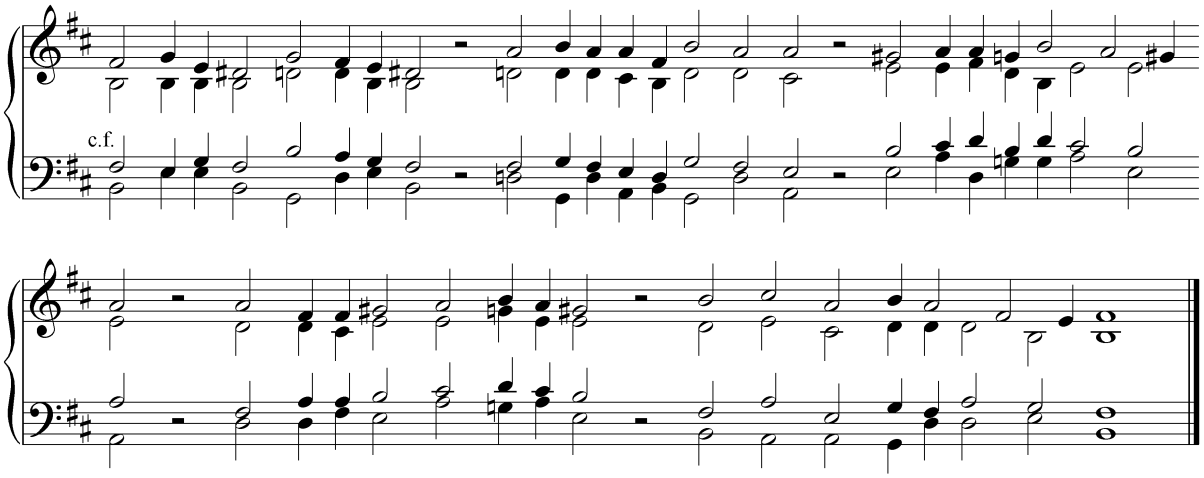
As we have seen, not all accidentals (sharps and flats that occur incidentally in the course of a piece) indicate actual shifts of key. In music written during the transition from the medieval modes to the classical tonal system we encounter situations that do not entirely fit into either system, but 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:



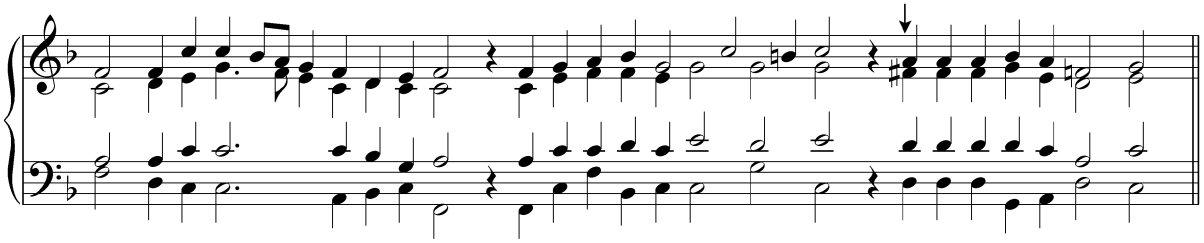
In Psalm 113, amid a setting full of tonal cadences, Goudimel suddenly lowers degree VII at a point where we mortals (and the composer too in the other lines!) would surely play degree IV (n.b. the setting is a harmonisation of the tenor!):



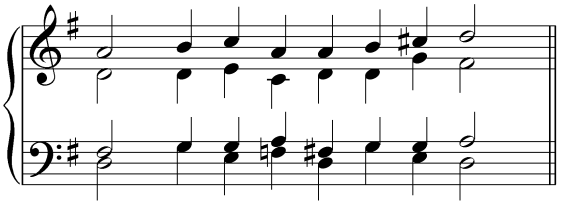
Goudimel's setting of Psalm 132 is so whimsically colourful that it deserves to be quoted in its entirety:



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!