

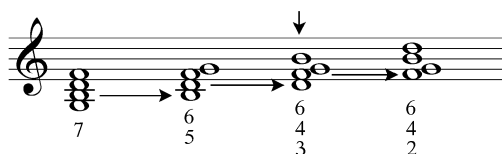
# 10

## THE SIX-FOUR-THREE-CHORD

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

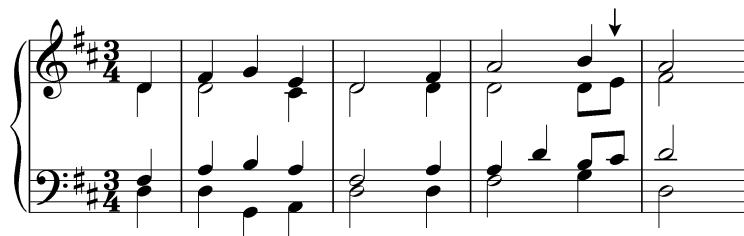
### The 2nd inversion of the 7-chord

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:

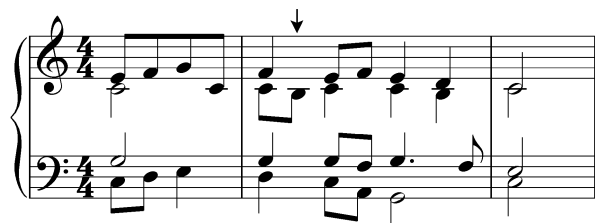


The bass of the 6-4-3-chord is the 5th of the 7-chord. The full name six-four-three-chord is usually shortened to four-three-chord and indicated by the figured bass  $\frac{4}{3}$ .

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:



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## 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.

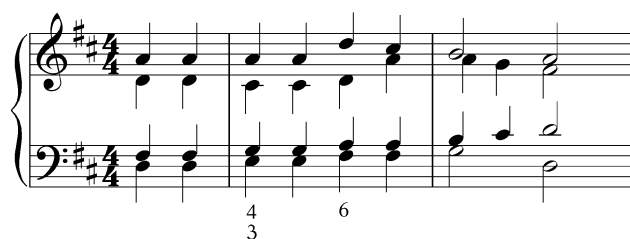
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### Application of the 4-3-chord

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.

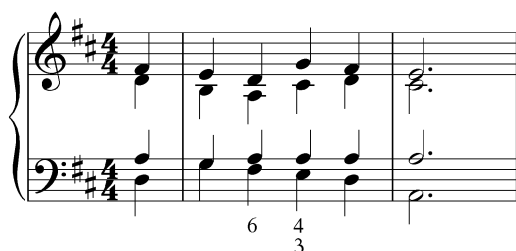
#### (i) The I-V-I progression

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.

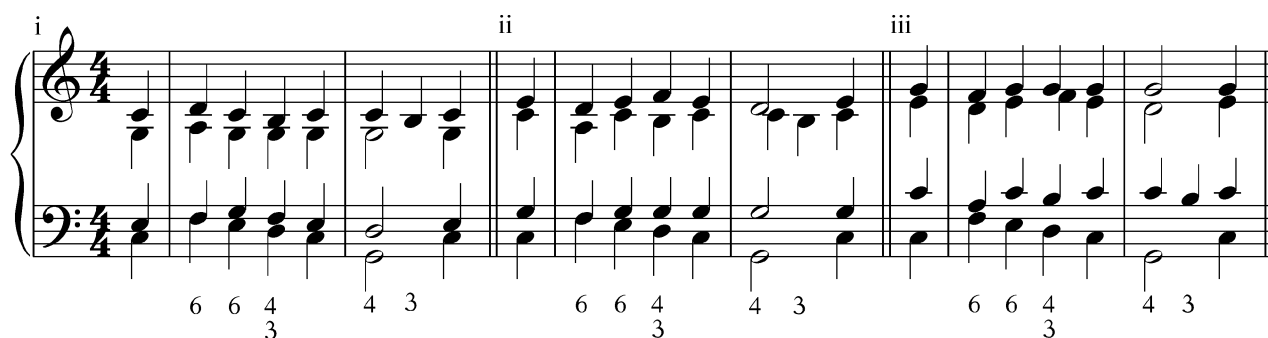
In the hymn *St Peter*, Alexander Robert Reinagle employs the same I-V-I progression, but in reverse order with descending bass:



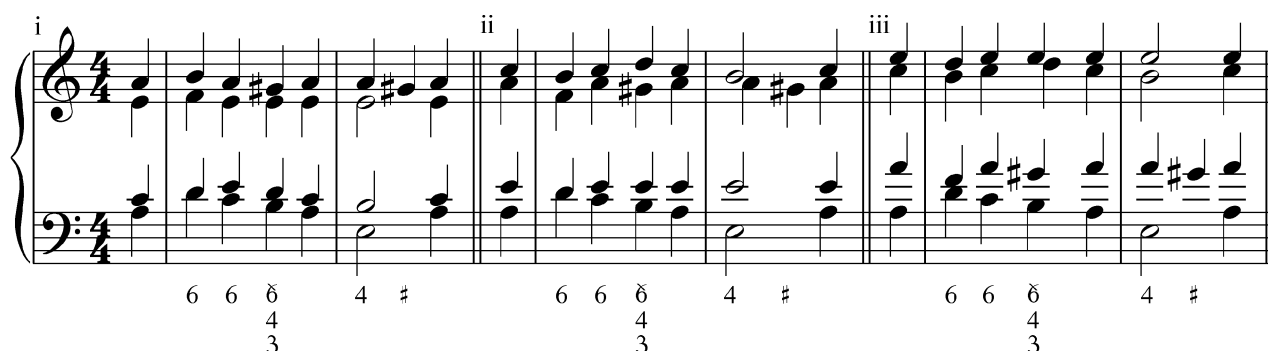
Reinagle incorporates the 7th G in his melody, even emphasising it through the upwards leap.

## EXERCISES:

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



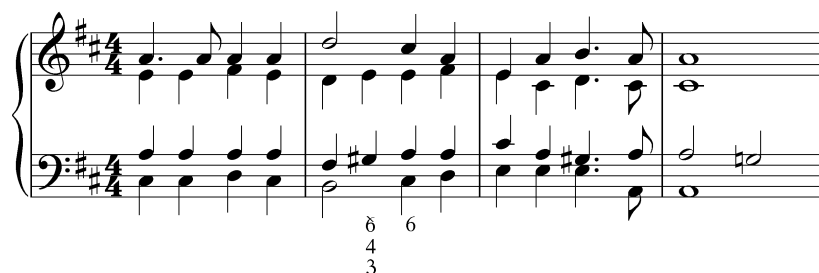
5. Repeat the cadential phrases in the minor keys of A, E, B, F sharp, D, G, C and F:



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.

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**EXERCISES:**

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

i

A musical exercise in 3/4 time, key of A major. It consists of four measures. The first measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The second measure has a treble staff with a quarter note A#4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The third measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The fourth measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. Below the bass staff, there are figured bass notations: '6' and '5' under the first measure, 'δ' and '4' under the second, '6' under the third, and '6' and '5' under the fourth.

ii

A musical exercise in 3/4 time, key of A major. It consists of four measures. The first measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The second measure has a treble staff with a quarter note A#4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The third measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The fourth measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. Below the bass staff, there are figured bass notations: '6' and '5' under the first measure, 'δ' and '4' under the second, '6' under the third, and '6' and '5' under the fourth.

iii

A musical exercise in 3/4 time, key of A major. It consists of four measures. The first measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The second measure has a treble staff with a quarter note A#4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The third measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. The fourth measure has a treble staff with a quarter note A4, a quarter note B4, and a quarter note C#5, and a bass staff with a quarter note A2, a quarter note B2, and a quarter note C#3. Below the bass staff, there are figured bass notations: '6' and '5' under the first measure, 'δ' and '4' under the second, '6' under the third, and '6' and '5' under the fourth.

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

i

6 5      delta 4 3      6      delta 5      #

ii

6 5      delta 4 3      6      delta 5      #

iii

6 5      delta 4 3      6      delta 5      #

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*:

4 3

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 unmistakably plagal effect. Bastiaans (a Dutch organist and pupil of Mendelssohn) wrote the same in his *Verlosser, Vriend, o hoop, o lust* (1852):

4 3

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:

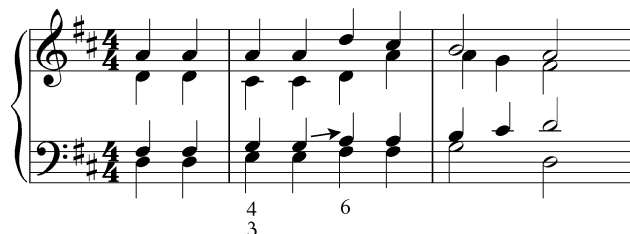
10. Practise the following cadential phrases in all major keys:

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

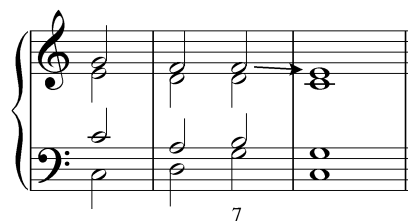
12. Practise the following sequences in all major keys:

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

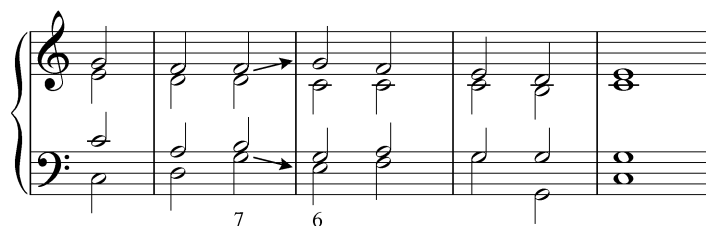
The phenomenon of the ascending 7th, observed on p.113 in Goss's setting of *Praise my soul, the king of heaven*, and also present in ex.10 and 11, deserves special attention:



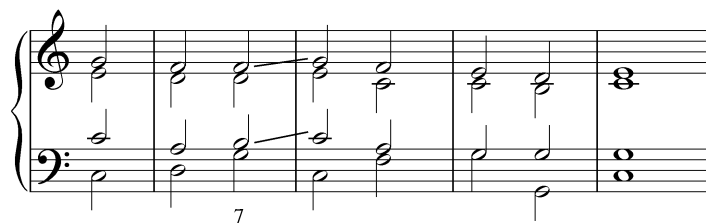
Until this point, we have learnt to resolve dissonances by the downward movement of a major or minor 2nd:



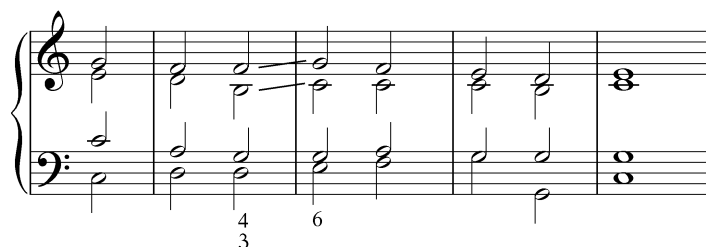
However, in the 7-chord on degree V - the dominant-7-chord - the 7th may resolve upwards if the bass moves to the 1st inversion of the tonic triad rather than to its root position:



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 the 1st inversion of the tonic triad 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:

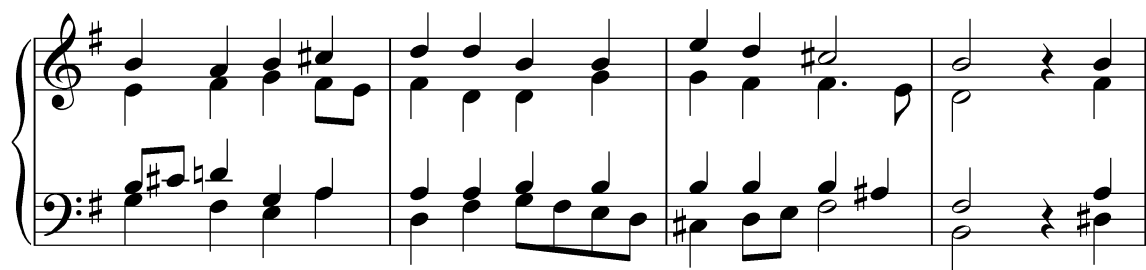
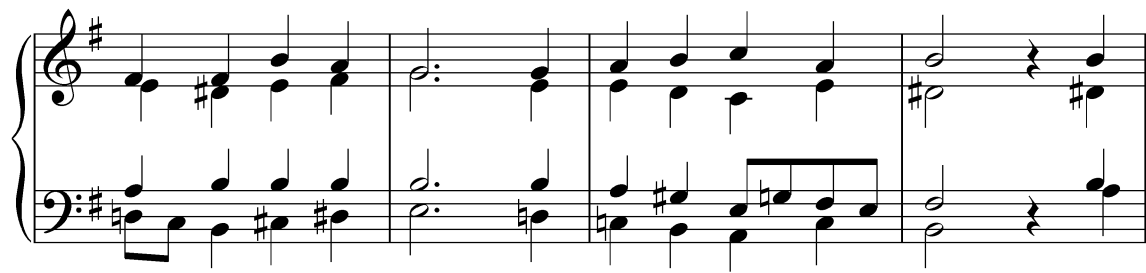
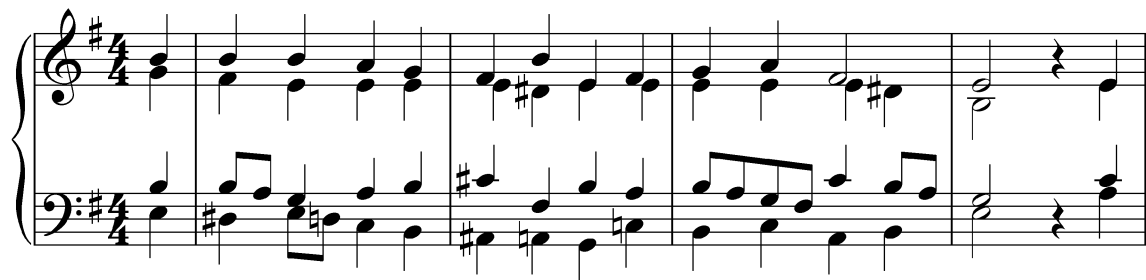
16.\* Repeat ex.14 and 15 with a solo stop and pedals.

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 (in case of 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)



## 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:

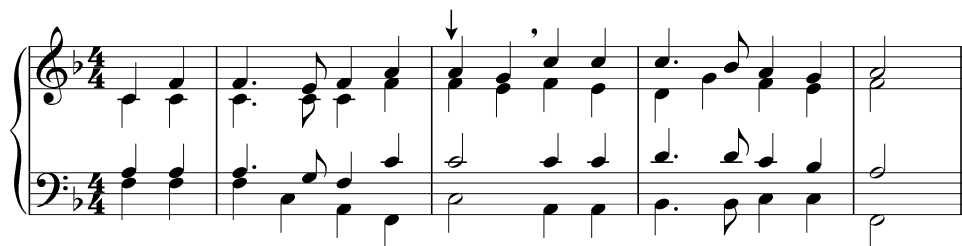
The musical score shows the piano accompaniment for Mendelssohn's chorale. It is written in B-flat major (two flats) and 4/4 time. The score consists of five systems. Chord progressions are labeled with letters (a), (b), and (d) above the treble staff. (d) indicates a cadential 6-4 chord, (a) indicates a passing 6-4 chord, and (b) indicates an auxiliary 6-4 chord. The melody is written in the treble staff, and the piano accompaniment is in the bass staff. The score ends with a double bar line.

- (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:

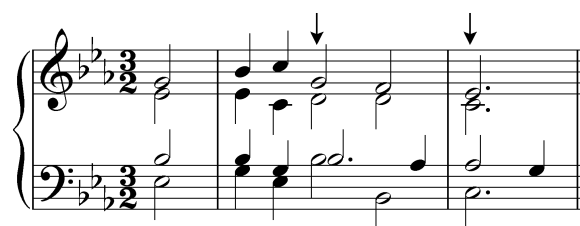


Why is the 6-4-chord indispensable at this point? Firstly, because the first phrase begins and the second phrase ends on the tonic; midway, at the end of the first phrase, there is hardly a good alternative for the dominant. Secondly, above the dominant - the bass C - we experience the melody note A 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:



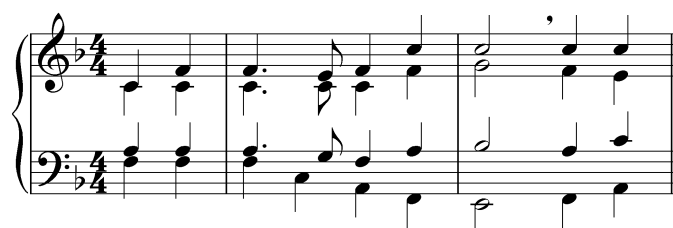
Leaving this aside, if Mendelssohn's melody had taken a different turn, without an appoggiatura from the 6th to the 5th in the given soprano:



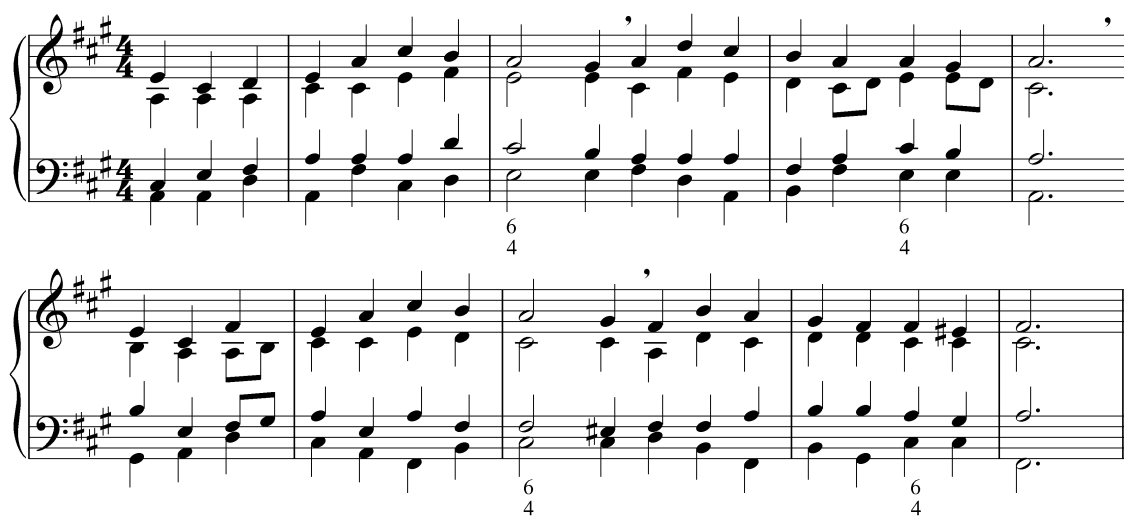
we could either retain the cadential 6-4-chord:



or simply do away with it:

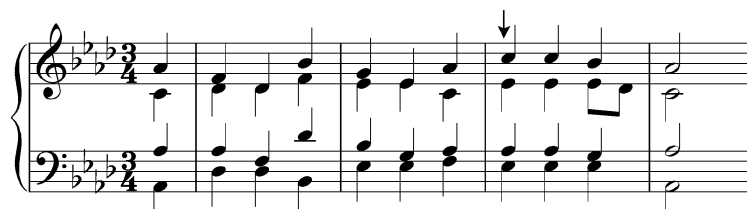


If we turn to Johannes Gijsbertus Bastiaans's *Straks groeten w'onze moederstranden* (1868), it is tempting to think that he inherited his preference for the cadential 6-4-chord from his teacher Mendelssohn:

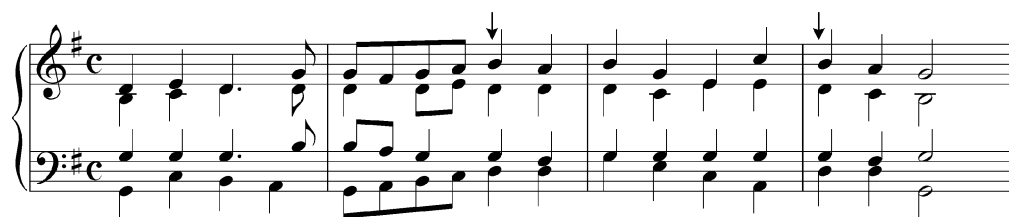


But we know from many other 19th-century harmonisations that this was a widespread characteristic of the romantic style.

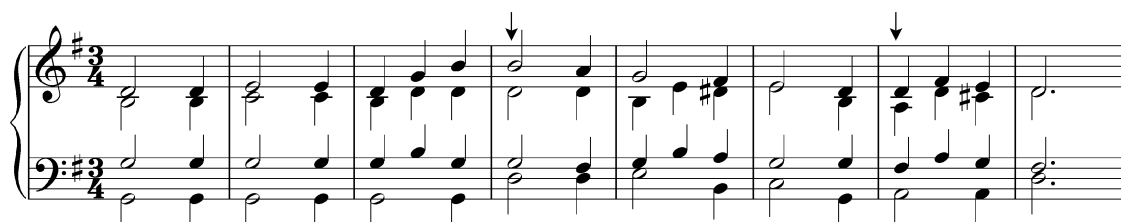
Finally, for Welsh devotees of the 6-4-chord, here are the openings of three favourite hymns in which, at the points indicated, they would surely be upset to hear an alternative harmonisation! The first is *St Denio*, an adaptation of a Welsh song:



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:



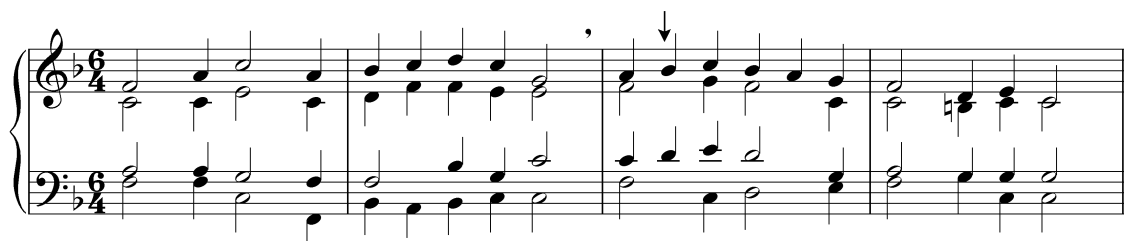
It cannot be denied that those of us who were brought up with the hymns and chorales of the church have a memory bank of harmonisations that we can hardly escape from. Is this the reason why we expect to hear the 6-4-chord at particular points in the hymns quoted in this chapter? Only partly, for as 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.

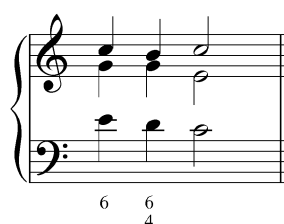
In addition to the cadential 6-4-chord, two important though somewhat less frequent applications are the **passing 6-4-chord** and the **auxiliary 6-4-chord**.

### 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:



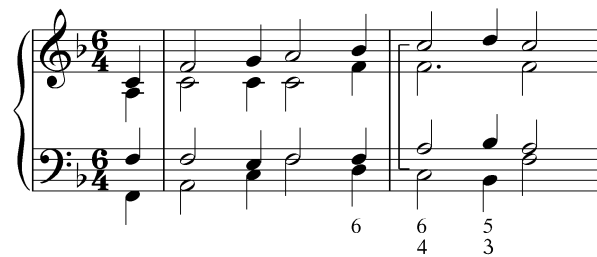
In four-part writing the bass is doubled, as in the cadential 6-4-chord:



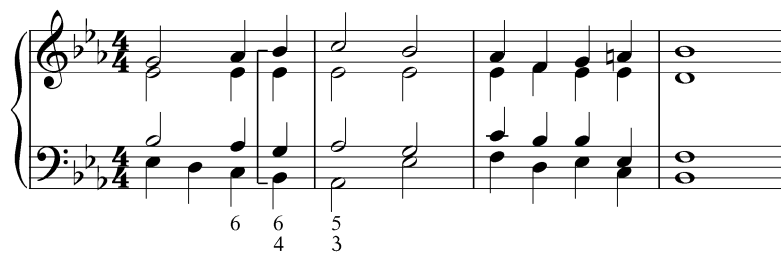
This doubling often occurs in the soprano, which consequently moves stepwise in contrary motion to the bass:



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):

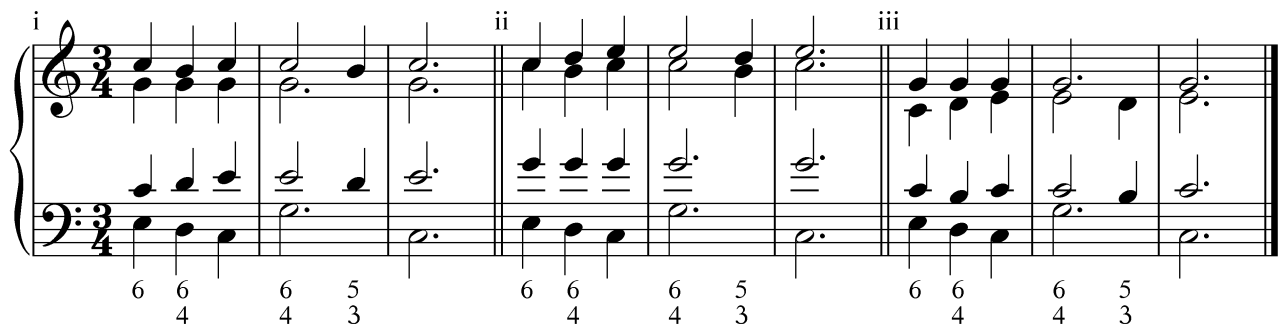


From the above examples we may conclude that the passing 6-4-chord

- 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:

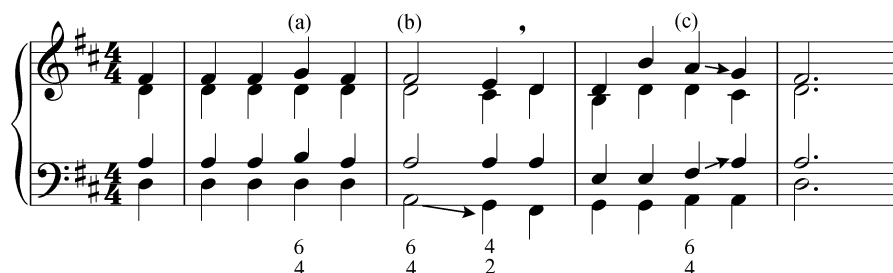




recalls Clement Cotterill Scholefield's *St Clement*:



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.

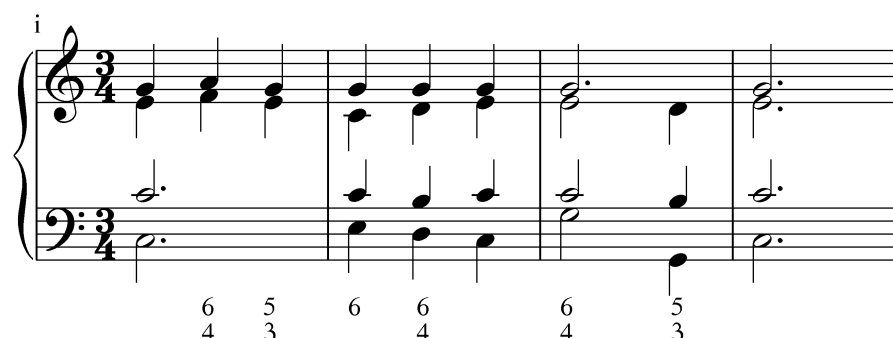
From the above examples we may conclude that the auxiliary 6-4-chord

- occurs above a held or repeated 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:



ii

6 5 6 6 6 5  
4 3 4 4 4 3

iii

6 5 6 6 6 5  
4 3 4 4 4 3

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

i

6 5 6 6 6 #  
4 3 4 4 4

ii

6 5 6 6 6 #  
4 3 4 4 4

iii

6 5 6 6 6 #  
4 3 4 4 4

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*

6 4

6 4

2

(b) *Befiehl du deine Wege*

7 6 2 4 3

6 4

6 4

6 4 6 4

(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.

ii

iii

iv

v

vi

vii

viii

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*

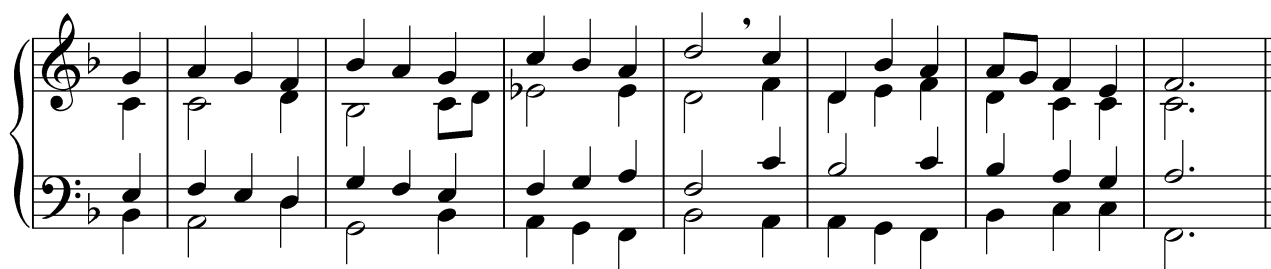
The musical score for 'St Peter' consists of two systems of piano accompaniment. Both systems are in G major (one sharp) and 4/4 time. The first system has five measures, and the second system has five measures. The notation is for piano, with treble and bass staves joined by a brace. The music is a simple harmonic exercise, likely for figured bass.

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

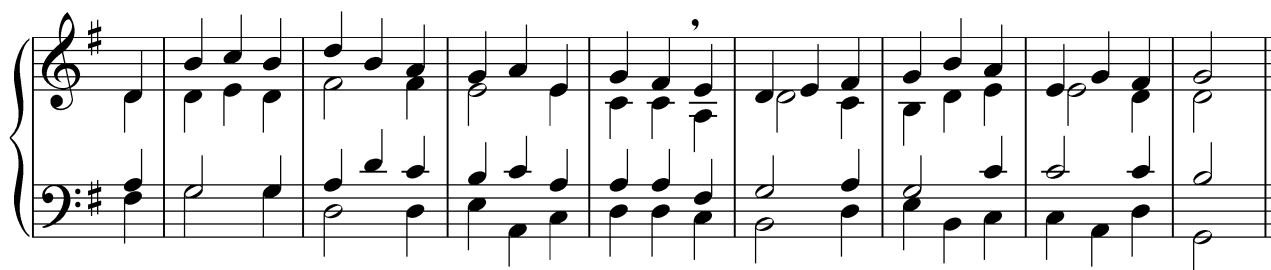
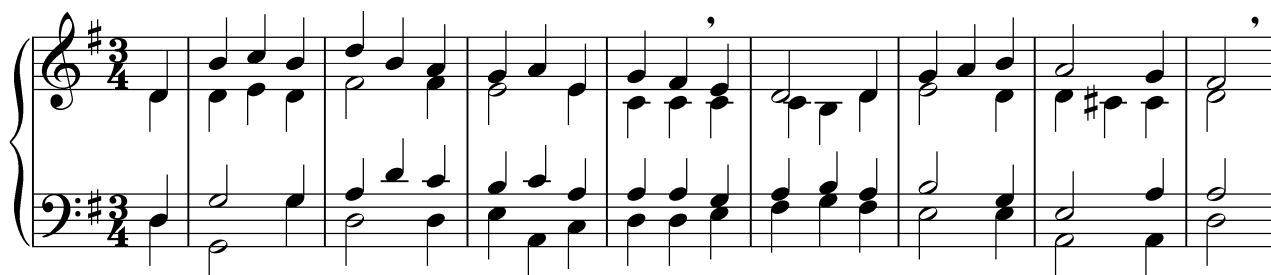
The musical score for 'When I survey the wondrous cross' consists of two systems of piano accompaniment. Both systems are in B-flat major (two flats) and 3/4 time. The first system has eight measures, and the second system has eight measures. The notation is for piano, with treble and bass staves joined by a brace. The music is a simple harmonic exercise, likely for figured bass.

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

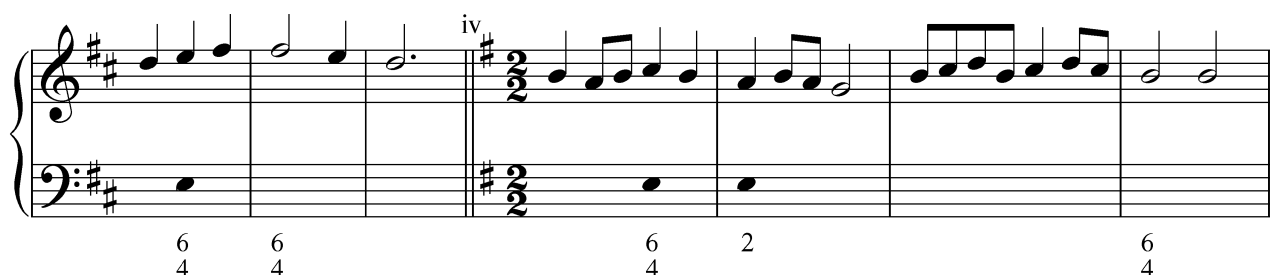
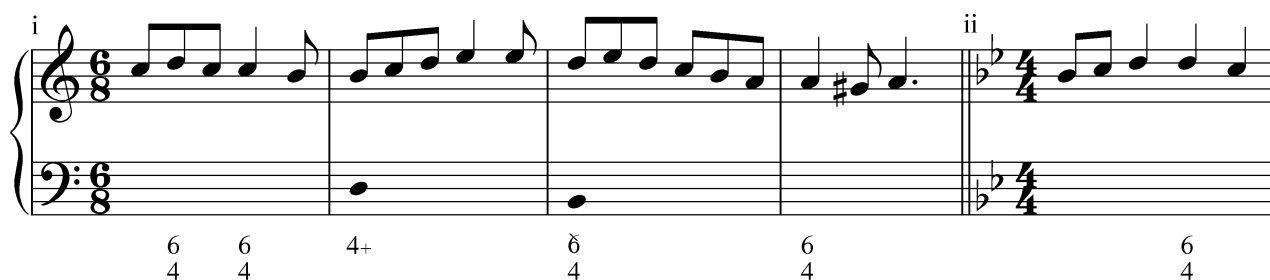
The musical score for 'Richmond' consists of piano accompaniment in B-flat major (two flats) and 3/4 time. The notation is for piano, with treble and bass staves joined by a brace. The music is a simple harmonic exercise, likely for figured bass.



(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

xii



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

i

6 6      6 6 4 6 4      6 5      6 6 4 6 #      6 6

ii

6 4 3 6 4      6      6      6 4 # #      6

6 4 3      6 4      4+      6      6 5 6 4

iii

6 5      6 4      6 4 2      6 6 4      6      6 4 #

iv

6 6      b6 4      4+      6 6      6 6 6 6 7      6 5 6

v

6 5 3      6 5

4+      6 6 4      6 6 4      6      9 8 6      9 8 4+      6 6 b      6 7 5 4 5

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

i

ii

iii

iv

v

vi

vii

viii

ix

## FIGURATION (iii)

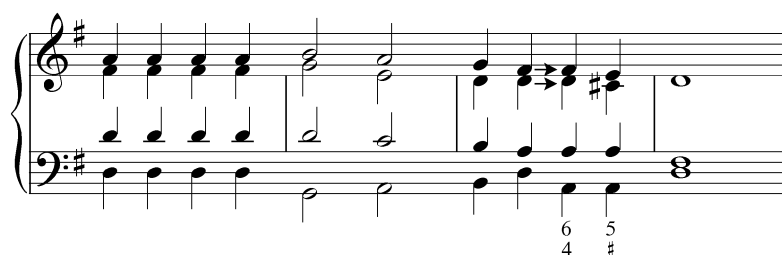
- The unprepared appoggiatura
- Multiple appoggiaturas

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.

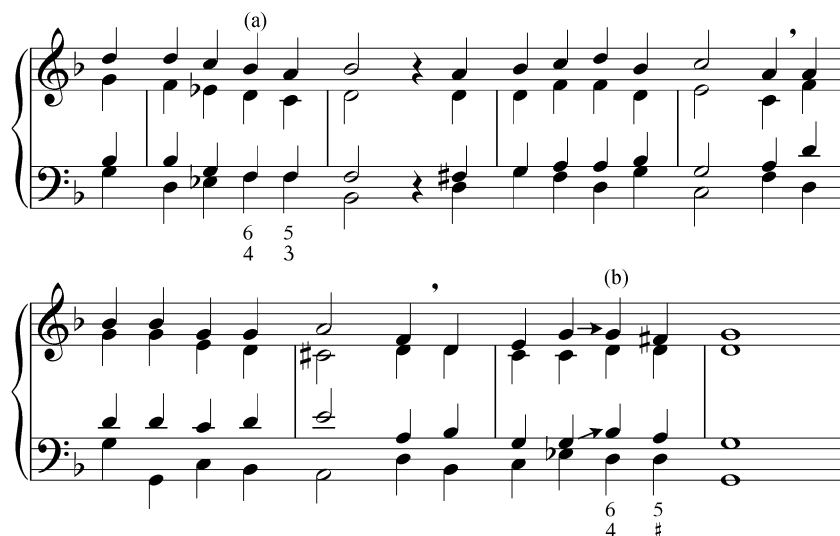
Up until this point, we have observed the rule that dissonances or appoggiaturas should be prepared in the preceding chord. In this chapter the **unprepared appoggiatura** will be discussed. When more than one appoggiatura occurs simultaneously, there is mention of **multiple appoggiaturas**. Since both 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 dynamic 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:

ii

7 8 9 10 etc. 7 6

iii

9 8 6 5 etc.

iv

2 3 4 3 etc.

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

i

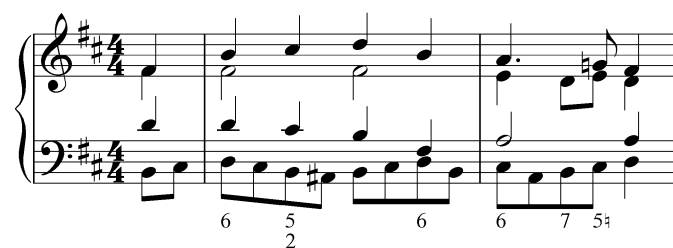
7 6 4 3 7 6 4 3 etc.

ii

7 6 4 3 7 6 4 3 etc.

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 (unprepared) 4-3 suspension in the bass, resulting in the following figures:



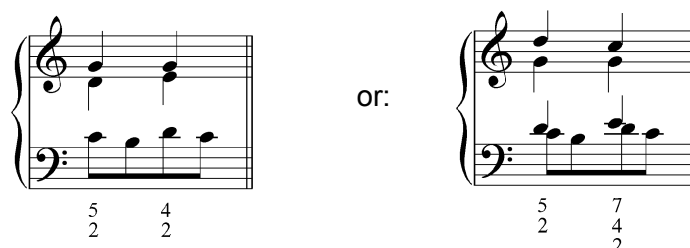
When a chord is thus 'delayed' by an appoggiatura, the figures too are occasionally likewise delayed by a dash:



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:



We note that:

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

### EXERCISES:

3. Practise the following sequences in all major keys:

i

5/2 4/2 5/2 4/2 5/2 4/2

ii

5/2 7/4/2 5/2 7/4/2 5/2 7/4/2

iii

5/2 7/4/2 5/2 7/4/2 5/2 7/4/2

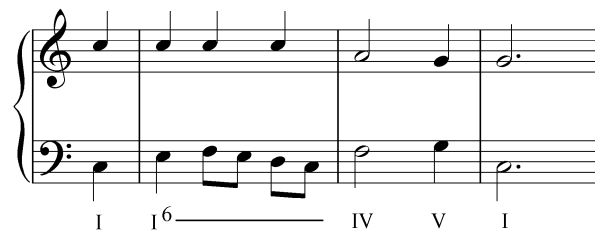
iv

5/2 4/2 etc.

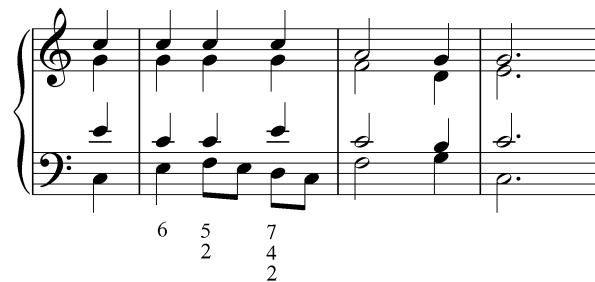
v

5/2 7/4/2 etc.

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:



could also be figured as follows:

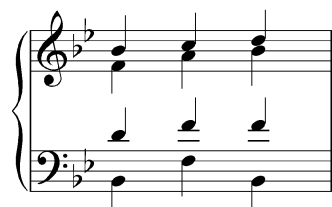


Let us not be deterred by composers and publishers eager to be thorough. (The figured basses discussed here are taken from Georg Christian Schemelli's *Musikalisches Gesang-Buch* (1736).

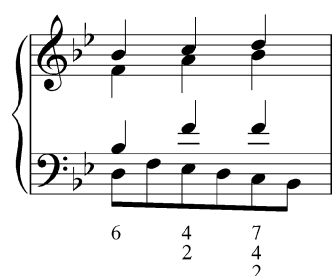
In the end, of course, the continuo player should aspire to rely on musical insight and the ear rather than on numbers. 'Playing by numbers' may well form the starting-point, but freedom to make music is the goal. When the experienced player sees the following:



the I-V-I progression will be recognised:

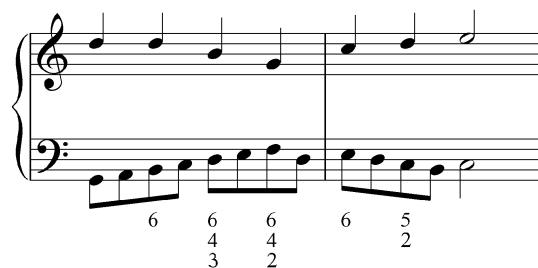


which is hardly difficult to play:

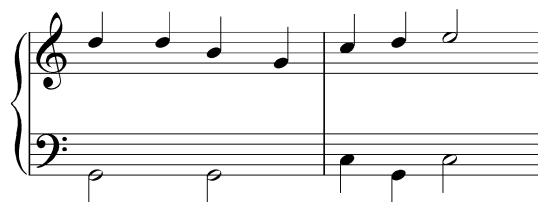




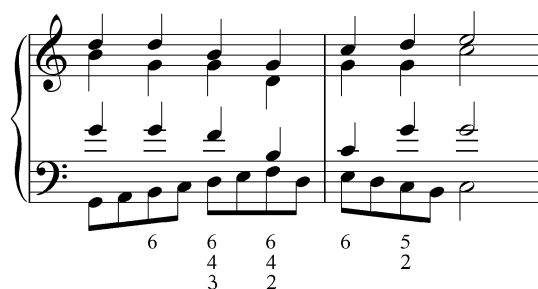
The following figured bass may look complicated:



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:

i

7 5 2

ii

7 5 2

5. Practise the following cadences in all major keys:

i

7 5 4 3

ii

5 4 2

iii

iv

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. This is particularly true of the figure 2 where it indicates an appoggiatura. In order to create space for the resolution, a 9th (or even an 8ve plus a 9th) will often be required rather than a literal 2nd:



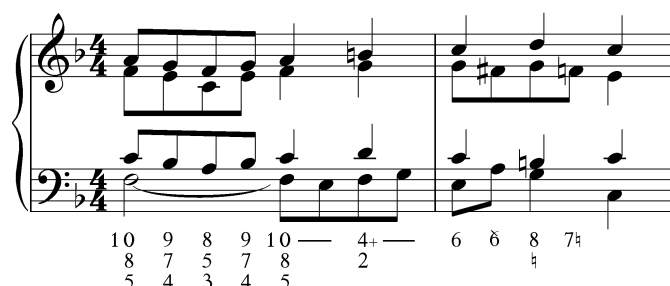
Where a composer writes a figure 9 for the same reason, it is usually incorrect to play a 2nd instead:



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 desired 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:

i

ii

iii

iv

v

vi

vii

viii

ix

x

xi

xii

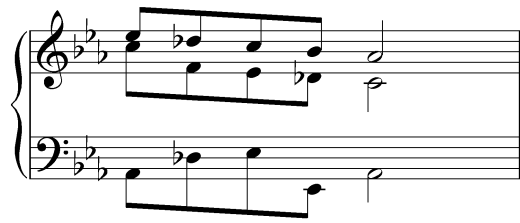
xiii

xiv

xv

xvi

xvii



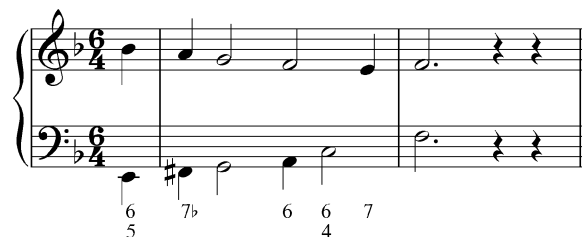
becomes:



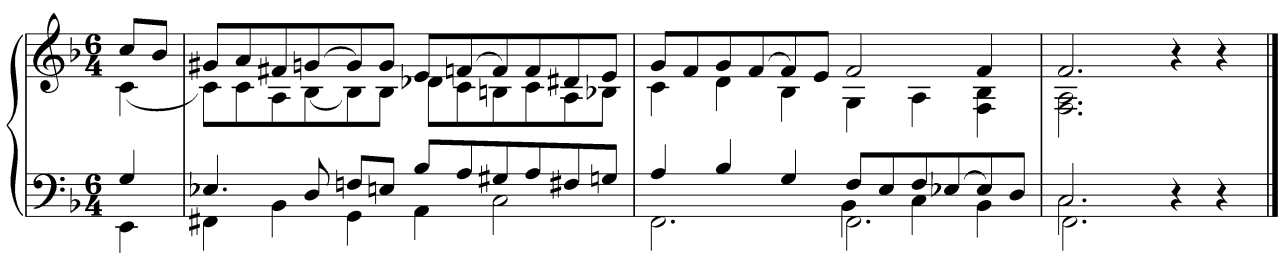
As we come to the end of *The Lost Chord*, the thought that *all good things come to an end* could also be applied to the decline of tonality, and certainly in the context of the appoggiatura. In 1896, in the final year of his life, Johannes Brahms composed his *Eleven Chorale Preludes* for the organ. 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 tonality. 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

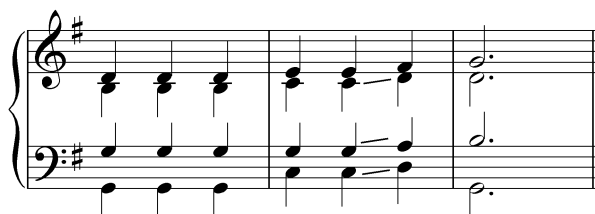
- Parallel 3rds between the outer parts
- Open spacing
- Forbidden fruits

“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.

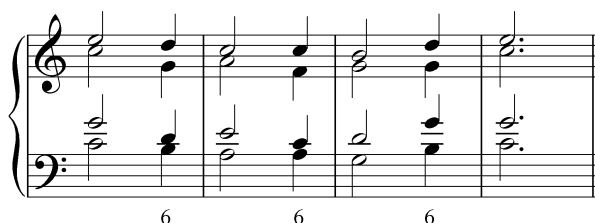
### Parallel 3rds between the outer parts

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



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

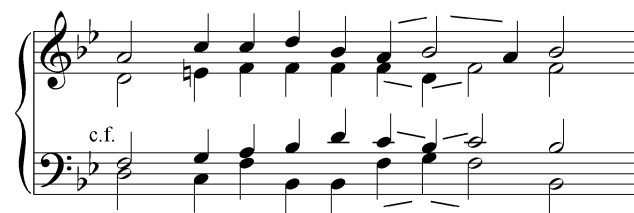


he writes the triad on degree VI in mixed spacing; the outer parts rise in parallel 3rds, while the alto moves downwards and the tenor stays where it is:



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.

Exercise 1: Cadential phrases in all major keys. The exercises are presented in two systems, each with two measures labeled i and ii.

System 1 (Measures i and ii):

- Measure i: Treble clef, 3/4 time. Bass clef, 4/4 time. Chords: C major (C4, E4, G4), F major (F4, A4, C5), C major (C4, E4, G4).
- Measure ii: Treble clef, 3/4 time. Bass clef, 4/4 time. Chords: F major (F4, A4, C5), C major (C4, E4, G4), F major (F4, A4, C5).

System 2 (Measures iii and iv):

- Measure iii: Treble clef, 4/4 time. Bass clef, 4/4 time. Chords: C major (C4, E4, G4), F major (F4, A4, C5), C major (C4, E4, G4).
- Measure iv: Treble clef, 4/4 time. Bass clef, 4/4 time. Chords: F major (F4, A4, C5), C major (C4, E4, G4), F major (F4, A4, C5).

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

Exercise 2: Cadential phrases in all minor keys. The exercises are presented in two measures labeled i and ii.

Measure i: Treble clef, 3/4 time. Bass clef, 4/4 time. Chords: C minor (C4, E♭4, G♭4), F minor (F4, A♭4, C♭5), C minor (C4, E♭4, G♭4).

Measure ii: Treble clef, 3/4 time. Bass clef, 4/4 time. Chords: F minor (F4, A♭4, C♭5), C minor (C4, E♭4, G♭4), F minor (F4, A♭4, C♭5).

3. Practise the following sequences in all major keys:

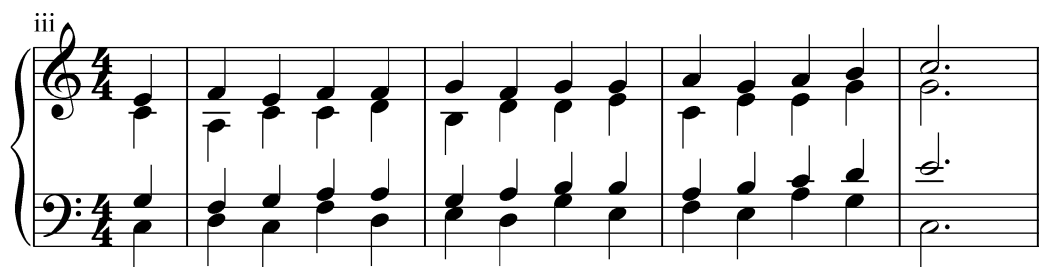
Exercise 3: Sequences in all major keys. The exercises are presented in two systems, each with two measures labeled i and ii.

System 1 (Measures i and ii):

- Measure i: Treble clef, 4/4 time. Bass clef, 4/4 time. Chords: C major (C4, E4, G4), F major (F4, A4, C5), C major (C4, E4, G4).
- Measure ii: Treble clef, 4/4 time. Bass clef, 4/4 time. Chords: F major (F4, A4, C5), C major (C4, E4, G4), F major (F4, A4, C5).

System 2 (Measures iii and iv):

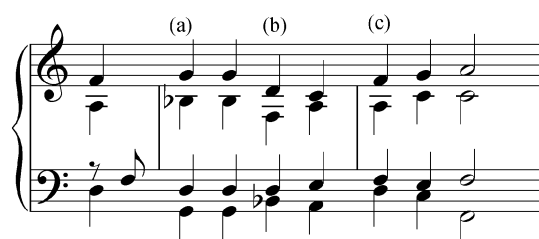
- Measure iii: Treble clef, 3/4 time. Bass clef, 4/4 time. Chords: C major (C4, E4, G4), F major (F4, A4, C5), C major (C4, E4, G4).
- Measure iv: Treble clef, 3/4 time. Bass clef, 4/4 time. Chords: F major (F4, A4, C5), C major (C4, E4, G4), F major (F4, A4, C5).



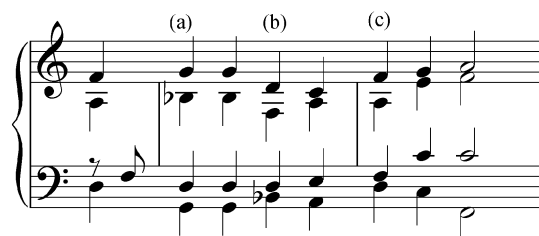
4.\* Repeat ex.1 to 3 with a solo stop and pedals.

### 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 Accompannement") 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:

The image displays four staves of musical notation, each representing a different realization of the same bass line. The notation is in G major (one sharp) and 4/4 time. The first staff shows the original melody in the treble and a bass line in the bass. The second staff shows a realization with parallel 5ths and 8ves. The third staff shows a realization with parallel 5ths and 8ves. The fourth staff shows a realization with parallel 5ths and 8ves. The notation is in G major (one sharp) and 4/4 time. The first staff shows the original melody in the treble and a bass line in the bass. The second staff shows a realization with parallel 5ths and 8ves. The third staff shows a realization with parallel 5ths and 8ves. The fourth staff shows a realization with parallel 5ths and 8ves.

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.

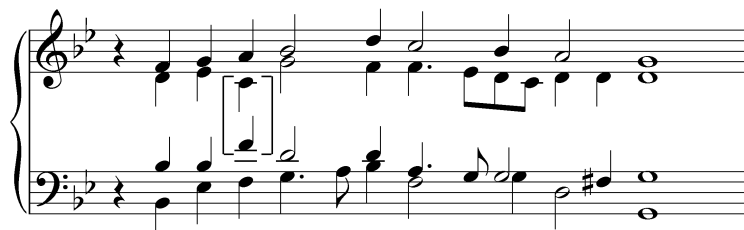
All who have learnt a little about harmonisation know that parallel 5ths and 8ves are considered to be incorrect. In 16th-century polyphony as well, direct perfect 5ths and 8ves between the same two parts were strictly forbidden. This rule was not thought up simply to put composers to the test. Our collective 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):

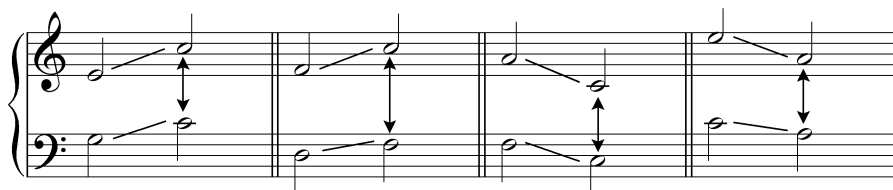


In the third chord, the tenor rises above the alto. If we ignore the part-crossing and notate the progression as it really sounds, we hear the following:

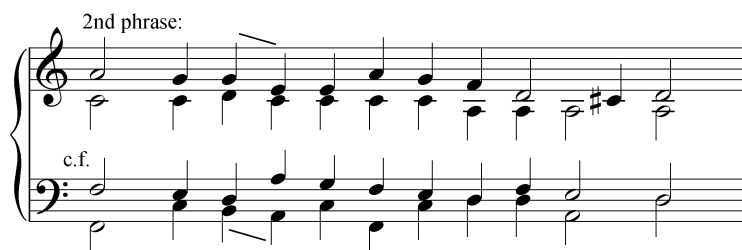


Let us examine these four examples at more length.

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 phenomenon, 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:



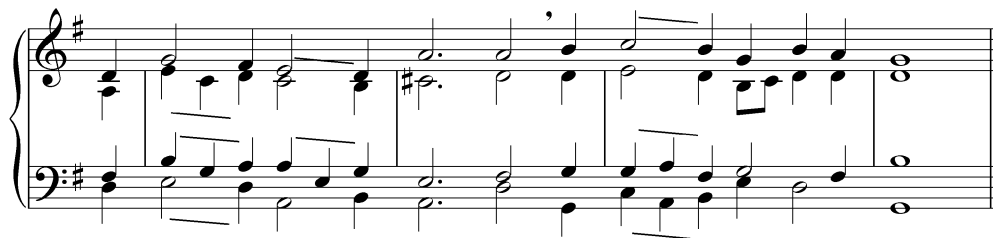
In 1653, one hundred years later, Crüger wrote the following bass to his own melody *Nun danket all und bringet Ehr*.



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):

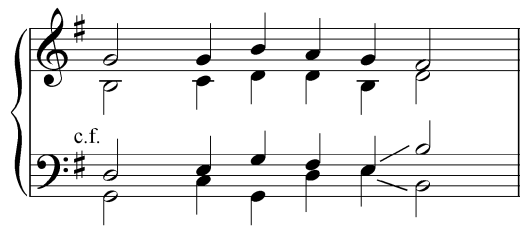


Even an intermediate and sometimes short consonance was sufficient to cancel parallels, as we see at the beginning of Johann Crüger's *Fröhlich soll mein Herze springen* (1653/57):

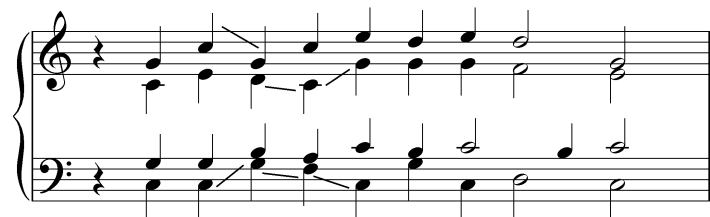




Parallel 5ths and 8ves in contrary motion were not unknown in classical polyphony, although they usually occurred between the bass and an inner part, and only by exception between the outer parts. In the psalm harmonisations of Goudimel we find parallel 8ves in contrary motion between the cantus firmus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

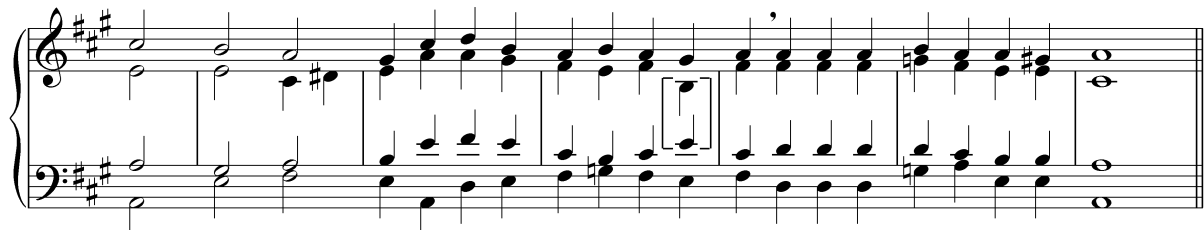


which actually sounds as follows:

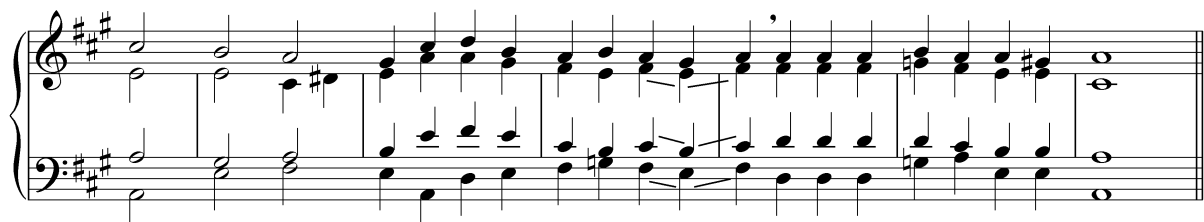


As long as there were no parallel 5ths or 8ves between two and the same parts, the 16th-century polyphonic composer was free of blame. Could it be that these 'sounding' parallels escaped the listener's attention because of the specific timbre of the different groups of singers? Or is there symbolism 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.*

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