

THE
LOST
CHORD

HARMONISATION
ON
KEYBOARD INSTRUMENTS

III

STEPHEN TAYLOR

The Lost Chord

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

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

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

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

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

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

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

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

PART III

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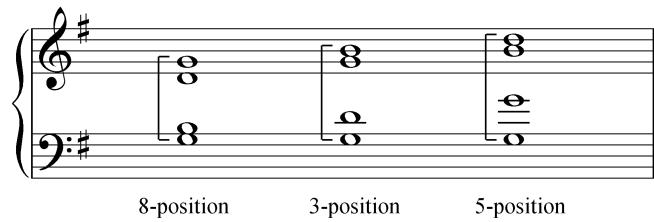
Readers are advised to consult the Preface to *The Lost Chord* elsewhere on this site.

In this third and final volume of *The Lost Chord*, the chord of the six-four (or 2nd inversion) and the chord of the seventh and its inversions are explored, as well as further modulation, passing and auxiliary notes, and elementary improvisation. A continuing and important subject is the figured bass.

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

The degrees of the scale are indicated by the Roman numerals I, II, III, IV, V, VI, VII.

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



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

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

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

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

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

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

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

1

PERSPECTIVES

The emergence of the tonal system
Vertical and horizontal tensions

The emergence of the tonal system

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

The Genevan psalm tunes of the 16th century form a vivid example. They were published between 1539-1562 along with new metrical psalm translations by Johannes Calvijn and contemporaries. These 16th-century melodies were written in the medieval modes. However, the harmonisations, mainly by Louis Bourgeois (1547) and Claude Goudimel (1564), reveal distinctly tonal traits, particularly in the cadences.

Harmonisations from the 17th century, when the tonal system was clearly emerging, display a greater variety of harmonic means. In 1609, Michael Praetorius harmonised the 16th-century melody *Von Gott will ich nicht lassen* using the 6-chord, the 6-4-chord, and the 7-chord, subjects requiring our attention in the present volume:

The image shows three staves of musical notation for three voices (Soprano, Alto, Bass). The notation is in common time. The top staff is in G major, the middle staff is in F major, and the bottom staff is in C major. The music consists of three measures per staff. Vertical bass lines are provided for each staff. Roman numerals (6, 6, #, 7, 8, 6, 6, 6, 4) are placed below the bass lines to indicate harmonic changes. The first staff starts in G major (6), moves to F major (6), then to G major again (#). The second staff starts in F major (7), moves to G major (8), then to F major again (6). The third staff starts in C major (6), moves to G major (6), then to C major again (4).

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

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

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

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

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

Vertical and horizontal tensions

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

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

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

Not without reason are the terms 'root position' and 'inversion' written above in inverted commas. In discussing the 6-chord (Part II ch.7-8) we noted that use of the 6th above the bass bore the mark of horizontal thinking (the 6th as an appoggiatura, preceding the 5th) rather than that of a vertical approach (moving the root to an upper voice).

From a 'horizontal' point of view, many chords can be explained in terms of linear movement. Considered 'vertically', the emergence of the tonal system meant that the root of the triad became all-important, no matter in which voice it was placed.⁺

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

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

2

THE CHORD OF THE SEVENTH (i)

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

The interval of the 7th

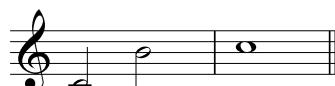
On the very first page of Part I of *The Lost Chord*, the player was encouraged to listen carefully to the different degrees of tension caused when the ascending major scale is heard against the sustained tonic:



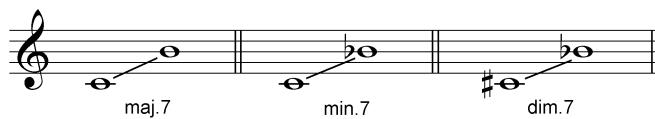
This tension is at its greatest at the seventh note, the B above the sustained C, forming together the interval of the **major 7th**. However, the ongoing, ascending stepwise movement, and particularly that from the leading note B up to the tonic, considerably weakens the clash. The full intensity of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



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

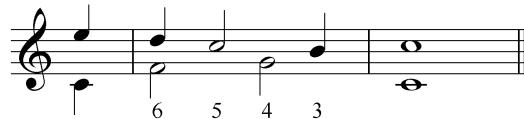


As a melodic interval, the major 7th is therefore something of an outsider. But it comes back strongly as a harmonic interval, and not only the major 7th, but also the **minor 7th** and the **diminished 7th**:



The 7th as an appoggiatura before the 6th

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



If the soprano were a given part, the alto could proceed in parallel 6ths:



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



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



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



EXERCISES:

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

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

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

preparation - dissonance - resolution
=
consonance - dissonance - consonance

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

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

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

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

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

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

The three-part writing with which we commenced:

can now be expanded to include a fourth part:

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

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

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

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

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

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

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

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



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

EXERCISES:

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

3. Practise the following cadences in all major keys:



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

4. Practise the following phrases in all major keys:



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

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



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

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



Is the dotted crotchet A in the bass the root of the 7-chord on III? Or do we hear the 1st inversion of the tonic triad of F major, in which the root in the alto is preceded by the appoggiatura G? Whatever the case may be, this ambivalence is fortunately of no consequence for the figured bass, in which we always count up from (and including) the bass, rather than from the root.

EXERCISES:

6. Practise the following cadences in all major keys:

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

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

3

THE CHORD OF THE SEVENTH (ii)

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

The three- and four-part 7-chord

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



Ebeling harmonised the close of his own melody as follows:

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

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

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

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

Doubling and parallel motion

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

A musical score in G clef (treble) and F clef (bass). The score is divided into four measures by vertical bar lines. Measure 1 (I) shows a bass note at the bottom and a soprano note at the top. Measure 2 (I6) shows a bass note at the bottom and a soprano note at the top. Measure 3 (II⁷) shows a bass note at the bottom and a soprano note at the top. Measure 4 (V) shows a bass note at the bottom and a soprano note at the top. Below the staff, Roman numerals indicate harmonic functions: I, I6, II⁷, V, I.

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

A musical score in G clef (treble) and F clef (bass). The score is divided into four measures by vertical bar lines. Measure 1 (I) shows a bass note at the bottom and a soprano note at the top. Measure 2 (I6) shows a bass note at the bottom and a soprano note at the top. Measure 3 (II⁷) shows a bass note at the bottom and a soprano note at the top. Measure 4 (V) shows a bass note at the bottom and a soprano note at the top. Below the staff, Roman numerals indicate harmonic functions: I, I6, II⁷, V, I.

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

A musical score in G clef (treble) and F clef (bass). The score is divided into four measures by vertical bar lines. Measure 1 (I) shows a bass note at the bottom and a soprano note at the top. Measure 2 (I6) shows a bass note at the bottom and a soprano note at the top. Measure 3 (II⁷) shows a bass note at the bottom and a soprano note at the top. Measure 4 (V) shows a bass note at the bottom and a soprano note at the top. Below the staff, Roman numerals indicate harmonic functions: I, I6, II⁷, V, I.

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

EXERCISES:

1. Practise the following cadences in all major keys:

A musical score in G clef (treble) and F clef (bass). The score is divided into two measures by a vertical bar line. Measure 1 shows a bass note at the bottom and a soprano note at the top. Measure 2 shows a bass note at the bottom and a soprano note at the top. Below the staff, numbers 6 and 7 are written under the bass notes.

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

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

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

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

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

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

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

EXERCISES:

4. Practise the following cadences in all major keys:

A musical score for two measures of four-part harmonic progression in G major. The top staff is treble clef, and the bottom staff is bass clef. The bass line is labeled with Roman numerals 7, 4, and 3 below the staff.

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

A musical score for two measures of four-part harmonic progression in A minor (natural). The bass line is labeled with Roman numerals 7, 4, and sharp below the staff.

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

The dominant-7-chord

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

A musical score by Hassler showing a section with a dominant-7-chord on II followed by a V-I cadence. The bass line is labeled with Roman numerals 6, 6, 7, and 6 below the staff.

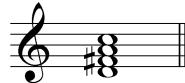
but he takes care to have his tenor move on quickly so as not to collide with the 6th in the alto. Similar situations are to be found in the settings by Crüger and Neumark on p.8-9. (By the way: would any of us have thought of the fourth chord in the quote from Hassler? How expressive is the 6th in the tenor!)

Ebeling's more independent use of the 7-chord on II in the approach to the V-I cadence (p.16) is rather common in 17th-century chorale harmonisations. The final cadence of Samuel Scheidt's *Von Gott will ich nicht lassen* (1650) is as follows:

A musical score by Scheidt showing the final cadence of "Von Gott will ich nicht lassen". The bass line is labeled with Roman numerals II⁷, V⁷, and I below the staff.

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

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



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

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



In the major scale we discovered the ascending and descending ‘pulling power’ of the individual notes in relation to the tonic (Part I p.7, Part III p.10). The progression from the dominant-7-chord to the tonic combines the pulling power of no less than three of these notes: F pulls towards E, while D and the leading note B both pull towards C; the bass rises by a 4th or falls by a 5th. All that can hardly leave any doubt about the key!

As the use of the 7-chord - and particularly the dominant 7th - increased in the course of the 17th century, the tonal system of our Western culture became established once and for all - or let us say until about 1900! Ultimately, the 7-chord had not only the potential to reinforce the tonal system, but also to destroy it - but that’s another story...

EXERCISES:

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

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

etc.

I II III IV V VI VII I

..... maj.7 min.7

..... perf.5 perf.5

..... maj.3 min.3

9. Answer the following questions:

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

.....

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

.....

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

.....

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

.....

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

.....

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

.....

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

The cadence in the first exercise of this chapter:

Musical score for a two-part cadence in G major (4/4 time). The top part consists of two measures of quarter notes followed by a half note. The bottom part consists of two measures of quarter notes followed by a half note. Measure numbers 6, 7, and 8 are indicated below the notes.

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

Musical score for a two-part cadence in G major (4/4 time) using complete 7-chords. The top part includes a 5th in the 6-chord. The bottom part includes a 5th in the 6-chord. Measure numbers 6, 7, and 8 are indicated below the notes.

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

Musical score for a two-part cadence in G major (4/4 time) where the root of the 6-chord is doubled. The top part includes a 5th in the 6-chord. The bottom part includes a 5th in the 6-chord. Measure numbers 6, 7, and 8 are indicated below the notes.

EXERCISES:

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

Musical score for a two-part cadence in G minor (4/4 time) using complete 7-chords. The top part includes a 5th in the 6-chord. The bottom part includes a 5th in the 6-chord. Measure numbers 6, 7, and 8 are indicated below the notes.

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

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

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

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

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

EXERCISES:

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

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

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

(i) three-part:

A musical score for three voices in 4/4 time. The top voice (soprano) has a bass clef, the middle voice (alto) has a C-clef, and the bottom voice (bass) has a bass clef. The sequence consists of four measures. In each measure, the soprano and alto voices play eighth notes, while the bass voice plays quarter notes. Below the bass staff, the number "7" is written under each measure, indicating a harmonic progression of seventh chords.

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

A musical score for four voices in 4/4 time. The top voice (soprano) has a bass clef, the second voice (mezzo-soprano) has a C-clef, the third voice (tenor) has an F-clef, and the bottom voice (bass) has a bass clef. The sequence consists of four measures. In each measure, the soprano, mezzo-soprano, and tenor voices play eighth notes, while the bass voice plays quarter notes. Below the bass staff, the number "7" is written under each measure.

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

A musical score for four voices in 4/4 time. The top voice (soprano) has a bass clef, the second voice (mezzo-soprano) has a C-clef, the third voice (tenor) has an F-clef, and the bottom voice (bass) has a bass clef. The sequence consists of four measures. In each measure, the soprano, mezzo-soprano, and tenor voices play eighth notes, while the bass voice plays quarter notes. Below the bass staff, the number "7" is written under each measure.

(iv) three-part:

A musical score for three voices in 4/4 time. The top voice (soprano) has a bass clef, the middle voice (alto) has a C-clef, and the bottom voice (bass) has a bass clef. The sequence consists of five measures. In each measure, the soprano and alto voices play eighth notes, while the bass voice plays quarter notes. Below the bass staff, the number "7" is written under each measure.

(v) four-part:

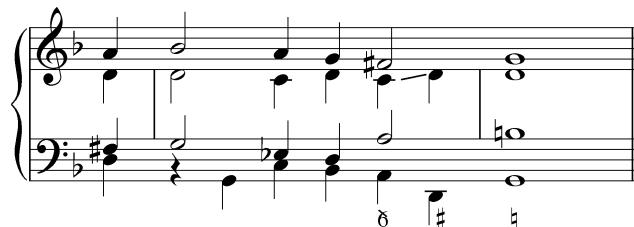
A musical score for four voices in 4/4 time. The top voice (soprano) has a bass clef, the second voice (mezzo-soprano) has a C-clef, the third voice (tenor) has an F-clef, and the bottom voice (bass) has a bass clef. The sequence consists of five measures. In each measure, the soprano, mezzo-soprano, and tenor voices play eighth notes, while the bass voice plays quarter notes. Below the bass staff, the number "7" is written under each measure.

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

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

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

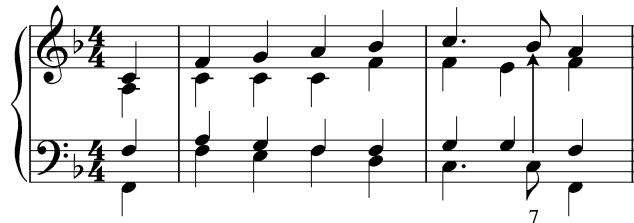
At the beginning of this chapter we observed how Ebeling, in 1660, seemed to take trouble to avoid the dominant 7th. Ten years before, Scheidt did exactly the same at the close of his setting of *Puer natus in Bethlehem*:



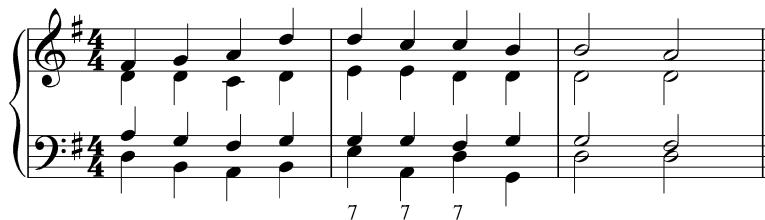
Nonetheless, the dominant 7th was already current, and we must exercise caution in drawing conclusions. Any choice of chords and chord progressions was, and is, a question not only of rules but also of taste. There is quite some difference, for example, between the 7th in an inner part, as Scheidt employed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



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



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



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

EXERCISES:

18. Play the following chorales in four parts:

(a) *Herr Jesu, Licht der Heiden*

The image displays three staves of musical notation for piano, arranged vertically. Each staff begins with a treble clef, followed by a key signature of one flat (B-flat). The first staff consists of five measures. The second staff also has five measures. The third staff has four measures. Below each staff, there are numerical or symbol-based labels corresponding to the notes in the bass clef (F clef) staff. The labels include: 6, 7, —, 4, 3, 2, 3; 6, 7, 6; 6, 5, 7, 6, #; and 6, 5, 7, 6, #. The bass clef staff is positioned directly beneath the treble clef staff of each measure.

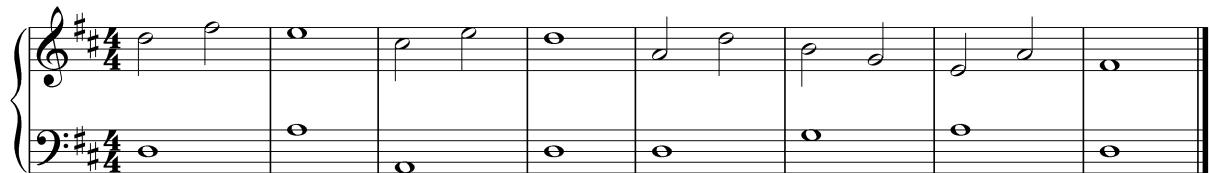
(b) *Gen Himmel aufgefahren ist*

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

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

Two-part inventions

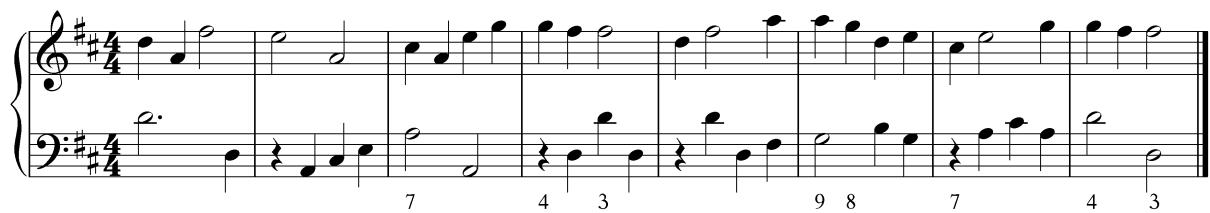
Let us return to our two-part *inventions*, which we commenced in ch.5 of Part II. In ch.11 (p.60), the following scheme:



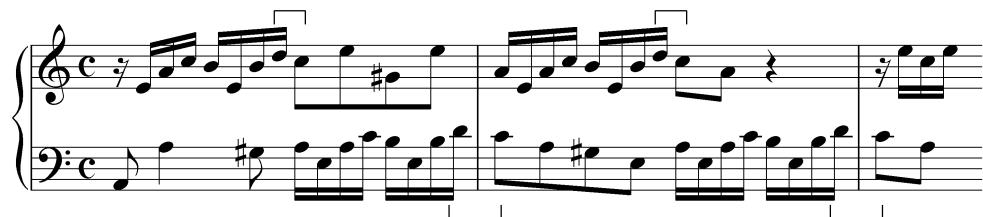
formed the basis for this little invention:



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



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



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

EXERCISES:

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

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

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The following inventions contain brief modulations:

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THE SIX-FIVE-CHORD

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

The 6-5-chord in three-part writing

In polyphonic music of the Renaissance, the course of the individual voices is so important that there is mention of a refined balance between the part writing on the one hand and the harmonic progressions on the other. In ch.1 we spoke of these horizontal and vertical aspects of music.

In a late example of such polyphony, from the Credo of William Byrd's *Mass for Three Voices* (ca. 1593/4), the voices imitate one another as follows:

A musical score in G clef, 4/4 time, with three voices: Soprano, Alto, and Bass. The Soprano and Alto sing "et ex - pe - cto" in unison. The Bass enters on the third beat of the measure, singing "et ex - pe - cto". The music shows horizontal movement where voices imitate each other, and vertical analysis reveals the 1st inversion of the 7-chord.

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

A vertical analysis diagram showing the 1st inversion of a 7-chord. The bass note is G (root), the 3rd is B (dissonant), and the 5th is D (consonant). An arrow points from the B note to the D note, indicating the resolution of the dissonance.

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

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

A musical score in G clef, 4/4 time, showing the resolution of a 7-chord in root position. The bass moves from G to D, and the upper voices resolve to a consonant chord. The numbers 6 and 7 under the bass notes indicate the resolution of the 7th scale degree.

with the help of the 1st inversion, or **6-5-chord**, we can now approach the cadence with rising, stepwise movement in the bass:

A musical score in G clef, 4/4 time, showing the resolution of a 7-chord in root position using a 6-5-chord. The bass moves from G to E, and the upper voices resolve to a consonant chord. The numbers 6 and 5 under the bass notes indicate the resolution of the 7th scale degree.

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

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

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

EXERCISES:

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

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

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

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

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

Figured bass - a question of adding up

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

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

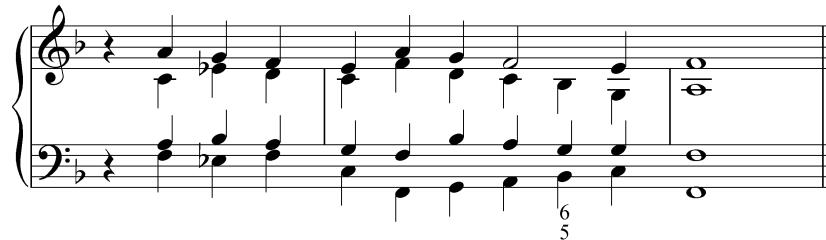
This would be a misunderstanding. The figured bass of the Baroque era was nothing more than a question of adding up from the written bass - not from the root of the triad. We are dealing with a figured bass, not a figured root. Generally speaking, the distribution of the parts above the bass is free.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

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

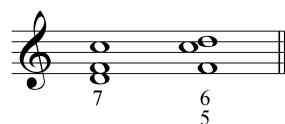
⁺ According to the rules of figured bass, however, the 3rd above the bass is taken for granted unless expressly stated - see Part I ch.14. The 6-chord, therefore, is normally indicated only by the number 6.

The 6-5-chord in four-part writing

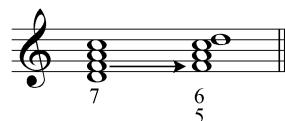
Let us return to the great William Byrd. In the example from his Mass (and in the above exercises), the 3rd above the bass is absent in the 6-5-chords. In *Ach bleib bei uns, Herr Jesu Christ*, a chorale harmonisation from the same period (1594) by Seth Calvisius, the same occurs:



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

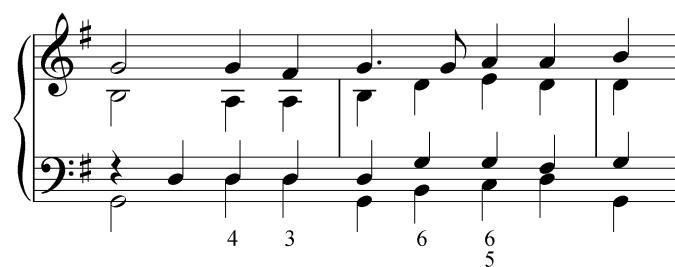


In most 17th-century harmonisations, however, the 6-5-chord is a *Vierklang*, as the Germans say, i.e. with four different notes:



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

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



It offers a good illustration of common characteristics of the 6-5-chord (here in open spacing):

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

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

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

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

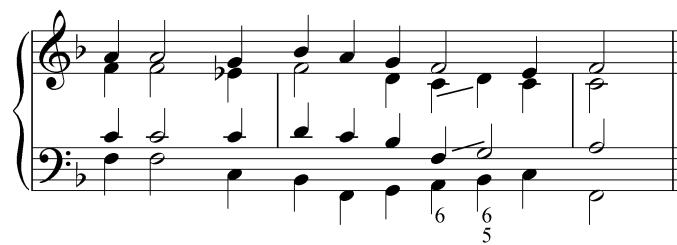
Jakob Praetorius, finally, puts us slightly on the wrong track in his earlier-quoted setting of *Wachet auf, ruft uns die Stimme*, dating from 1604:

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

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

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

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



EXERCISES:

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

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

7. Practise the following cadences in all major keys:

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

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

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

EXERCISES:

10. Practise the following phrases in all major keys:

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

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

(a) *Nun danket all und bringet Ehr*

(b) *Aus meines Herzens Grunde*

N.B.: beware of parallel 5ths! See p.34.

(c) *Winchester old*

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

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

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

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

14. Practise the following transpositions:

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

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

can be harmonised in the following positions:

and in combinations of these positions.

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

EXERCISES:

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

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

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

Inventions

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

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

and give full scope to our imagination:

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

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

EXERCISES:

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

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

Major keys:

I	II	I ⁶	V	I ⁶	IV ⁶	V	I
I	VI	IV	V	I ⁶	II	V	I

Minor keys:

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

5

FIGURATION (i)

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

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

Auxiliary notes

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



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



Musically speaking, however, the harmonised quavers slow down the pulse of this light-footed tune. Clemens simply repeats the triad of C major and thus provides sufficient support for the quaver figuration in the melody:



When we listen to Clemens's setting of this opening phrase, a remarkable phenomenon occurs. Our ear accepts the short but nonetheless strong dissonance between the quaver F sharp and the 3rd C-E which supports it, even though the resulting sound hardly seems harmonious:



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



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



From the above we may draw the following conclusions:

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

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

Musical notation for two soprano parts in G major. The top part features a continuous pattern of eighth-note chords with various auxiliary notes (F# in the first measure, A in the second, etc.) above them. The bottom part provides harmonic support with sustained notes and occasional eighth-note chords. The music is set against a basso continuo line at the bottom.

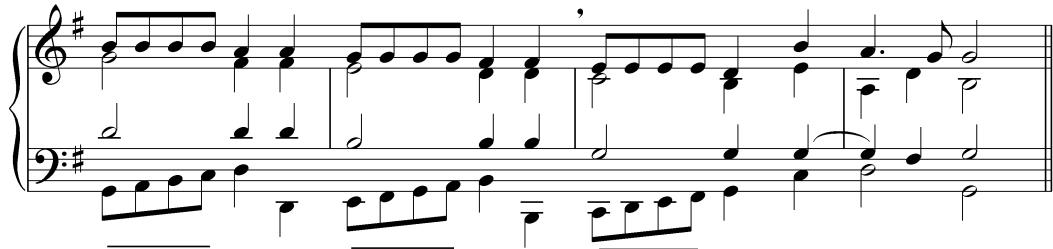
A change of chord on the even quavers would slow the pulse and change the character of the tune considerably:

Musical notation for two soprano parts in G major, identical to the previous example but with a significant change: the even-numbered quavers in each measure now represent a different chord (E minor instead of G major). This change creates a distinct rhythmic and harmonic character, as indicated by arrows pointing to the altered notes.

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

Passing notes

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

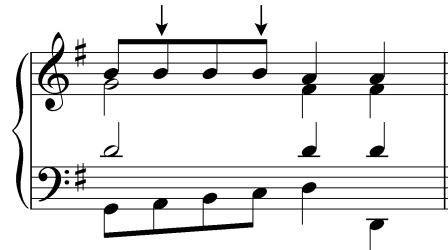


This simple melody, with many note repetitions, requires a simple harmonisation (and a brisk tempo!). The harmony changes twice per bar, creating a pulse in minims:



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

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



the following dissonances occur at the points indicated:



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



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

From the above we may draw the following conclusions:

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

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

The image shows three staves of musical notation in G major (indicated by a sharp symbol on the treble clef). The top staff is soprano, the middle staff is alto, and the bottom staff is bass. The notation consists of vertical stems with horizontal dashes indicating pitch and duration. The music illustrates harmonic progressions and the use of auxiliary and passing notes to connect chords. In the first system, the bass staff has a continuous eighth-note pattern. In the second system, the alto staff has a continuous eighth-note pattern. In the third system, the bass staff has a continuous eighth-note pattern.

N.B.: passing notes, unlike auxiliary notes, may occur as a stepwise movement between two different chords. See the first and third systems in the above example.

In the second system there are double auxiliary notes in the tenor and bass, now in crotchets. At the beginning of the final line the composer resists the temptation to treat the melody similarly:

The image shows a single staff of musical notation in G major. It consists of vertical stems with horizontal dashes. The melody begins with a quarter note, followed by an eighth note, then a quarter note, and finally an eighth note. This represents a stepwise movement between different chords, illustrating the concept of passing notes mentioned in the text.

EXERCISES:

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

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

Musical staff for exercise (a). The top line shows the beginning of a chorale melody in G major, 4/4 time. The melody consists of eighth and sixteenth notes. The staff is divided into six measures by vertical bar lines.

Continuation of the musical staff for exercise (a). The melody continues with eighth and sixteenth notes, divided into five measures.

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

Musical staff for exercise (b). The top line shows the beginning of a chorale melody in C major, 4/4 time. The melody consists of eighth and sixteenth notes. The staff is divided into six measures by vertical bar lines.

Continuation of the musical staff for exercise (b). The melody continues with eighth and sixteenth notes, divided into four measures.

Continuation of the musical staff for exercise (b). The melody continues with eighth and sixteenth notes, divided into five measures.

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

(c) *O Durchbrecher aller Bande*

Musical score for 'O Durchbrecher aller Bande' in G major, 4/4 time. The score consists of four staves of music, each with a treble clef and a bass clef. The first three staves are identical, showing a steady eighth-note pattern. The fourth staff shows a similar pattern but includes a fermata over the last note of the measure.

(d) *Liebster Jesu, wir sind hier*

Musical score for 'Liebster Jesu, wir sind hier' in G major, 4/4 time. The score consists of four staves of music, each with a treble clef and a bass clef. The first three staves show a eighth-note pattern with a fermata over the last note of the measure. The fourth staff shows a similar pattern but includes a fermata over the last note of the measure.

(e) *O Jesu Christe, wahres Licht*

Musical notation for exercise (e) in G major, 6/4 time. The top staff shows a melody in G major, and the bottom staff shows harmonic bass notes. The music consists of two measures.

Musical notation for exercise (e) in G major, 6/4 time. The top staff shows a melody in G major, and the bottom staff shows harmonic bass notes. The music consists of two measures.

(f) *Gelukkig is het land*

Musical notation for exercise (f) in A major, 2/4 time. The top staff shows a melody in A major, and the bottom staff shows harmonic bass notes. The music consists of four measures.

Musical notation for exercise (f) in A major, 2/4 time. The top staff shows a melody in A major, and the bottom staff shows harmonic bass notes. The music consists of four measures.

Musical notation for exercise (f) in A major, 2/4 time. The top staff shows a melody in A major, and the bottom staff shows harmonic bass notes. The music consists of four measures.

Musical notation for exercise (f) in A major, 2/4 time. The top staff shows a melody in A major, and the bottom staff shows harmonic bass notes. The music consists of four measures.

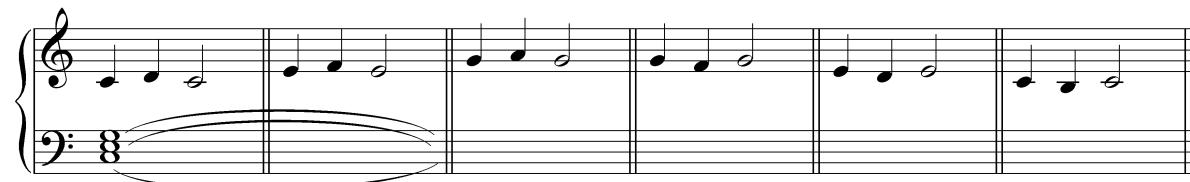
2. Practise the following transpositions: *Lobt Gott* in E flat and G, *Was Gott tut* in D and F, *O Durchbrecher* in C and E, *Liebster Jesu* in G and B flat, *O Jesu Christe* in A and F, *Gelukkig is het land* in A and G.

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

Inventions

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

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



and many combinations of the same, for example:



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



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



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



The following scheme:

can produce the following invention:

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

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

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

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

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



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

EXERCISES:

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

i

ii

iii

iv

5. Complete the following inventions with matching figuration.

i

A musical staff for two voices. The top voice is in treble clef, 3/4 time, and the bottom voice is in bass clef, 3/4 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (G, A), measure 2 (B, C), measure 3 (D, E), measure 4 (F, G). Measures 5-8 show quarter-note patterns: measure 5 (A), measure 6 (B, C), measure 7 (D, E), measure 8 (F).

ii

A musical staff for two voices. The top voice is in treble clef, 3/8 time, and the bottom voice is in bass clef, 3/8 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (E, F), measure 2 (G, A), measure 3 (B, C), measure 4 (D, E). Measures 5-8 show quarter-note patterns: measure 5 (F), measure 6 (G, A), measure 7 (B, C), measure 8 (D).

iii

A musical staff for two voices. The top voice is in treble clef, 4/4 time, and the bottom voice is in bass clef, 4/4 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (D, E), measure 2 (F, G), measure 3 (A, B), measure 4 (C, D). Measures 5-8 show quarter-note patterns: measure 5 (B), measure 6 (C, D), measure 7 (F), measure 8 (G).

iv

A musical staff for two voices. The top voice is in treble clef, 2/2 time, and the bottom voice is in bass clef, 2/2 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (E, F), measure 2 (G, A), measure 3 (B, C), measure 4 (D, E). Measures 5-8 show quarter-note patterns: measure 5 (F), measure 6 (G, A), measure 7 (B, C), measure 8 (D).

v

A musical staff for two voices. The top voice is in treble clef, 6/8 time, and the bottom voice is in bass clef, 6/8 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (E, F), measure 2 (G, A), measure 3 (B, C), measure 4 (D, E). Measures 5-8 show quarter-note patterns: measure 5 (F), measure 6 (G, A), measure 7 (B, C), measure 8 (D).

vi

A musical staff for two voices. The top voice is in treble clef, 4/4 time, and the bottom voice is in bass clef, 4/4 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (E, F), measure 2 (G, A), measure 3 (B, C), measure 4 (D, E). Measures 5-8 show quarter-note patterns: measure 5 (F), measure 6 (G, A), measure 7 (B, C), measure 8 (D).

vii

A musical staff for two voices. The top voice is in treble clef, 2/2 time, and the bottom voice is in bass clef, 2/2 time. The staff consists of eight measures. Measures 1-4 show eighth-note patterns: measure 1 (E, F), measure 2 (G, A), measure 3 (B, C), measure 4 (D, E). Measures 5-8 show quarter-note patterns: measure 5 (F), measure 6 (G, A), measure 7 (B, C), measure 8 (D).

viii

4/4

ix

3/4

x

2/2

xi

3/8

xii

2/4

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

Major keys:

I II⁷ I⁶ II⁶ V VI V I

I VI V⁶ V I⁶ IV IV I

Minor keys:

I V⁶ I IV⁶ IV II V⁷ I

I II⁷ I⁶ I IV⁶ IV V⁷ I

7. Practise the following exercises in four parts:

i

7 6 6 6 6 4 # — 6 6 9 8 6

ii

4 # 7 — — 6

iii

6 — 5 — 6 7 8 7 6 — 5

iv

7 — — 6 — 5

v

— 6 — 6 9 8 6 6 — 5

— # — 6 7 4 3 — 6 — 6 — 6 — # — 9 8

vi

vii

viii

ix

x

x

4 # 6 5

9 8 6 ——————

xi

4 # 6 ——————

4 3 ——————

4 3

xii

6 5 ——————

7 5 ——————

7

6 ——————

6 ——————

xiii

— — — — — —

6 — — — 7

6 — — — 5

6 — — — 4

6 — — — 3

— — — — — —

6 — — — 7

6 — — — 5

6 — — — 4

6 — — — 3

— — — — — —

5

6 — — — 7

6 — — — 5

6 — — — 4

6 — — — 3

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

i

6 6—5 4 # 6 6—5

ii

6 5 6—6 5 6

iii

6 6—6 4 3 5

iv

6 6—3 6—6 5

6 5 6—3 6—6 5 6—6 5

v

6 — 6 — 4 — 3

vi

6 — — — — — —

vii

6 5 4 3 6 — — — — — —

viii

6 — 7 — — — 6 — 4 — 5 —

6 — 6 — 6 — 4 — 5 —

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

6

FIGURATION (ii)

The character of the melody
Chord changes and pulse

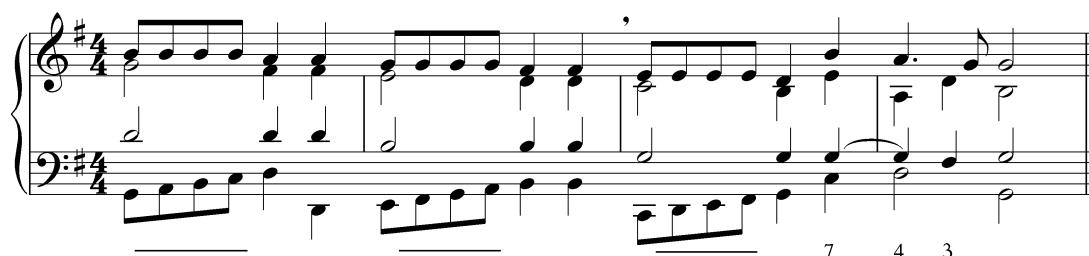
The character of the melody

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

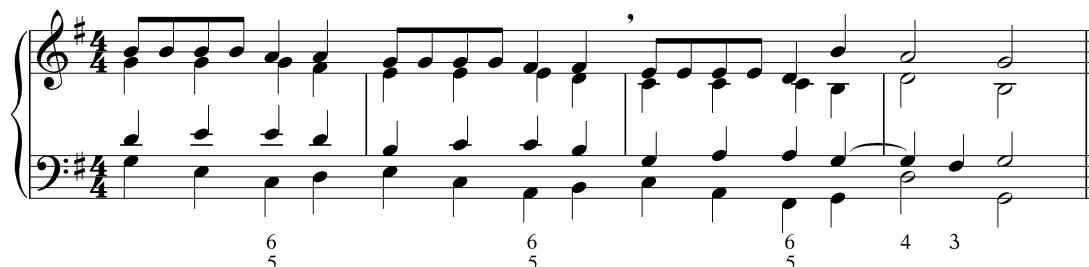
Chord changes and pulse

In order to make wise and tasteful choices in our harmonisation, we must first give due consideration to the melody. It is always advisable to sing it, and in so doing to imagine a certain pulse. Tempo and pulse are of influence on the question of which notes of the melody require a change of chord, and which ones can be treated as figuration.

After the previous chapter, we no longer need to assume that all our melodies must be harmonised note-against-note. We have examined examples in which the brisk rhythms of the melody were best supported by less frequent changes of chord. Let us look once more at Neander's(?) setting of *Wunderbarer König*:

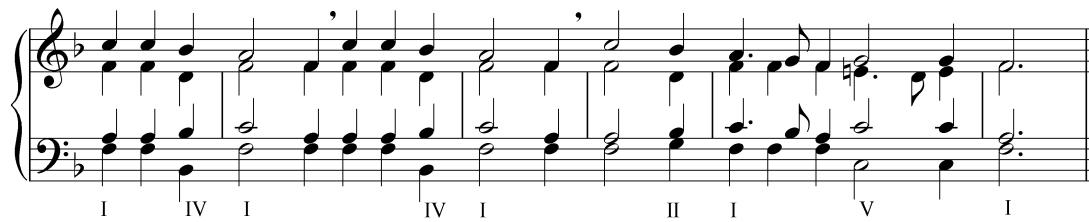


The melody has quite a different character and pulse than if we were to harmonise it as follows:



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

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



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

The score is divided into three systems. Each system has two staves: treble and bass. The key signature is one sharp (G major). The music features a mix of chords and harmonic progressions. Annotations below the notes indicate harmonic changes: (a) shows a progression from root position to 1st inversion of the same chord, followed by another root position; (b) shows a similar progression between root position and 1st inversion; (c) shows a harmonic transition between root position and 1st inversion on IV. Measure numbers 6, 4, and 3 are also indicated below the staff.

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

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

EXERCISES:

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

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



(b) *Het daget in den oosten*

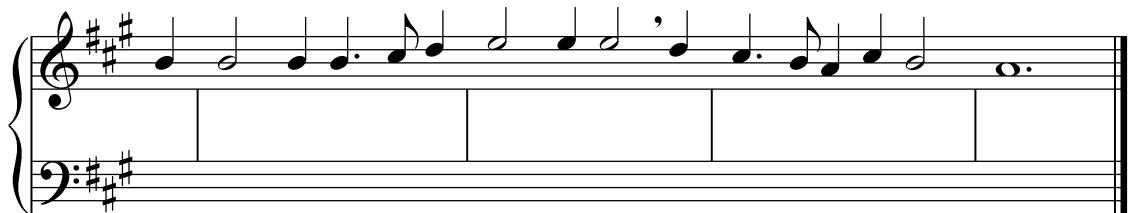


(c) *Aus meines Herzens Grunde*

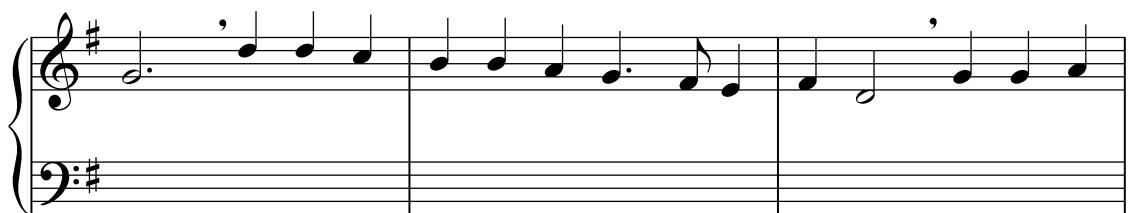
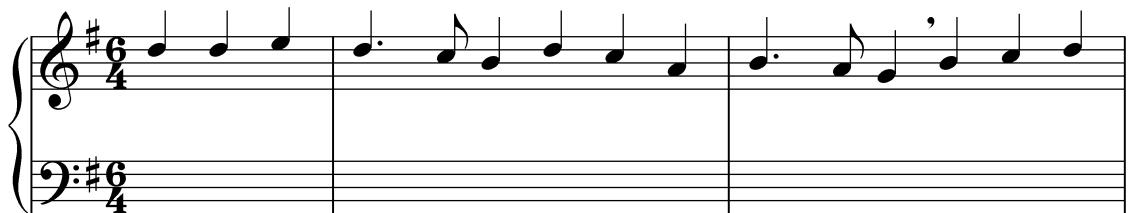
Musical score for 'Aus meines Herzens Grunde' in 6/4 time. The score consists of four staves, each with a treble clef and a bass clef. The first three staves have a key signature of one flat, while the fourth staff has a key signature of two sharps. The music features eighth-note patterns with various rests and grace notes.

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

Musical score for 'O Heer, die daar des hemels tente spreidt' in 6/4 time. The score consists of four staves, each with a treble clef and a bass clef. The first three staves have a key signature of two sharps, while the fourth staff has a key signature of one sharp. The music features eighth-note patterns with various rests and grace notes.



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



(f) *In babilone*

The image shows four identical staves of musical notation, each consisting of a treble clef, a bass clef, and four sets of horizontal lines. The notation consists of eighth and sixteenth note patterns. The first staff begins with a dotted quarter note followed by an eighth note. The second staff begins with a dotted half note followed by an eighth note. The third staff begins with a dotted half note followed by an eighth note. The fourth staff begins with a dotted half note followed by an eighth note.

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

3. Play the following sequences in all major keys:

The image shows two staves of musical notation, each consisting of a treble clef, a bass clef, and six sets of horizontal lines. The notation consists of eighth and sixteenth note patterns. Staff i begins with a dotted quarter note followed by an eighth note. Staff ii begins with a dotted half note followed by an eighth note.

The image shows four staves of musical notation, each labeled with a Roman numeral: iii, iv, v, and vi. The notation is for two voices (treble and bass) in 2/4 time. The treble clef is on the top line, and the bass clef is on the bottom line. The music consists of eighth and sixteenth note patterns. Measure numbers '6' are placed below each staff.

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

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

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

I	VII ⁶	I ⁶	V	VI	II	V	I
I	V	VI	III	IV	V	V	I
I	VI	II	V ⁶	I	IV ⁶	V ⁷	I

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

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

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

i

A musical staff consisting of two systems of five measures each. The key signature is one sharp (G major). The time signature is 3/4. The melody consists of eighth-note pairs and quarter notes.

ii

A musical staff consisting of two systems of five measures each. The key signature is one sharp (G major). The time signature is 6/8. The melody consists of eighth-note pairs and quarter notes.

iii

A musical staff consisting of two systems of five measures each. The key signature is one flat (F major). The time signature is 2/4. The melody consists of eighth-note pairs and quarter notes.

iv

A musical staff consisting of two systems of five measures each. The key signature is one sharp (E major). The time signature is 3/4. The melody consists of eighth-note pairs and quarter notes.

v

A musical staff consisting of two systems of five measures each. The key signature is one sharp (D major). The time signature is 6/8. The melody consists of eighth-note pairs and quarter notes.

A musical staff consisting of two systems of five measures each. The key signature is one sharp (C major). The time signature is 3/4. The melody consists of eighth-note pairs and quarter notes.

vi

A musical score for a piano or harpsichord. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in 2/4 time. The music consists of eighth-note patterns. The right hand starts with a sixteenth-note pattern, followed by eighth-note pairs, then eighth-note pairs with a sixteenth note, and finally eighth-note pairs again. The left hand provides harmonic support.

vii

A musical score for a piano or harpsichord. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in 2/2 time. The music consists of eighth-note patterns. The right hand starts with a sixteenth-note pattern, followed by eighth-note pairs, then eighth-note pairs with a sixteenth note, and finally eighth-note pairs again. The left hand provides harmonic support.

A musical score for a piano or harpsichord. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in 4/4 time. The music consists of eighth-note patterns. The right hand starts with a sixteenth-note pattern, followed by eighth-note pairs, then eighth-note pairs with a sixteenth note, and finally eighth-note pairs again. The left hand provides harmonic support.

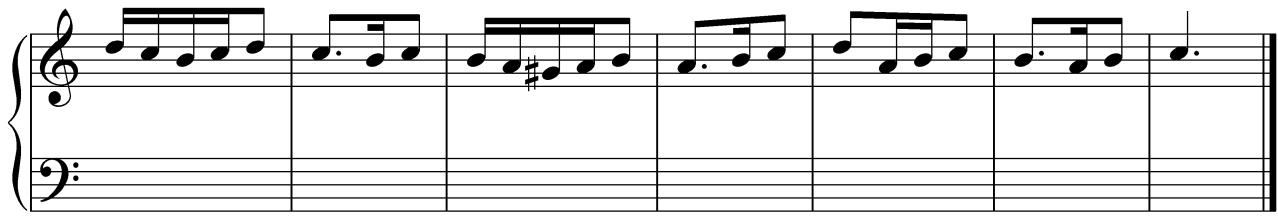
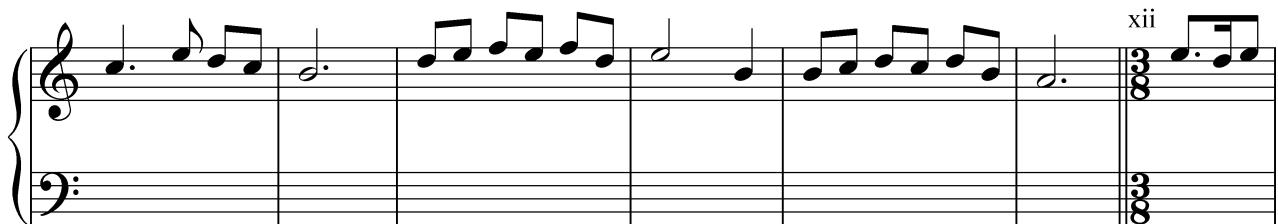
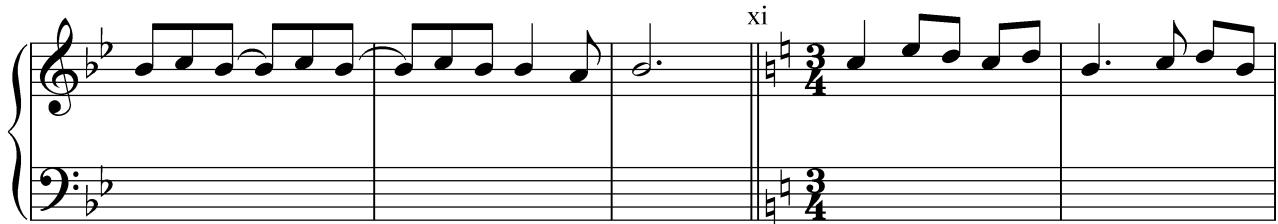
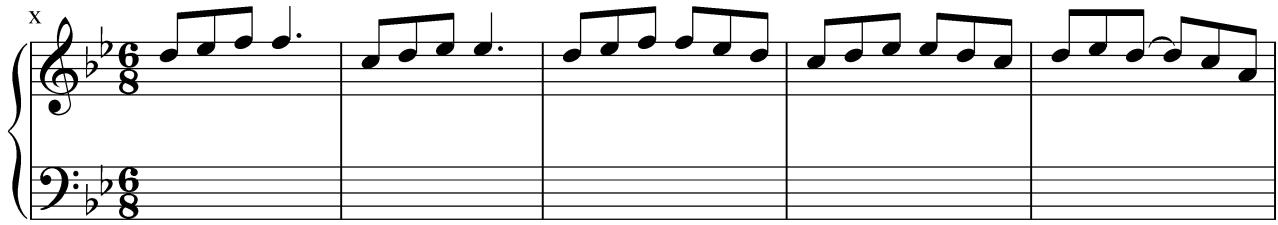
viii

A musical score for a piano or harpsichord. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in 3/4 time. The music consists of eighth-note patterns. The right hand starts with a sixteenth-note pattern, followed by eighth-note pairs, then eighth-note pairs with a sixteenth note, and finally eighth-note pairs again. The left hand provides harmonic support.

ix

A musical score for a piano or harpsichord. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in 3/4 time. The music consists of eighth-note patterns. The right hand starts with a sixteenth-note pattern, followed by eighth-note pairs, then eighth-note pairs with a sixteenth note, and finally eighth-note pairs again. The left hand provides harmonic support.

A musical score for a piano or harpsichord. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in 2/2 time. The music consists of eighth-note patterns. The right hand starts with a sixteenth-note pattern, followed by eighth-note pairs, then eighth-note pairs with a sixteenth note, and finally eighth-note pairs again. The left hand provides harmonic support.



7. Harmonise the following figured basses in different positions:

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

Figured bass for exercise (a). Bass staff. Key signature: E major (no sharps or flats). Time signature: Common time (indicated by '8'). Measures 1-12: Bass notes and figures: 6, 6, 6, ♯6, 6, 6, 6, 6, 6, 6, 6, 6. Measures 13-18: Bass notes and figures: ♯, 6, 6, 6, 6, 6, 5, 6, 6, 7, 6.

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

Figured bass for exercise (b). Bass staff. Key signature: B-flat major (one flat). Time signature: Common time (indicated by '4'). Measures 1-12: Bass notes and figures: 6, 6, —, 6, 5, 6, 6, —, 7, 6. Measures 13-18: Bass notes and figures: 7—, 7—, 7—, —, 6, 6—, 7, 6, 6, 6, 7, 6.

(c) *Valet will ich dir geben*

Musical score for "Valet will ich dir geben" in bass clef, 4/4 time, and B-flat major. The score consists of three staves of music. The first staff starts with a bass note followed by a series of eighth notes. The second staff begins with a bass note followed by eighth notes. The third staff starts with a bass note followed by eighth notes. Below each staff, there are numerical markings indicating harmonic functions: 6, 6, 5; 6, 6; 6, 7, 8; 6, 5, 6, 6, 6, 6, 7, 6.

(d) *Aus meines Herzens Grunde*

Musical score for "Aus meines Herzens Grunde" in bass clef, 6/4 time, and B-flat major. The score consists of three staves of music. The first staff starts with a bass note followed by eighth notes. The second staff begins with a bass note followed by eighth notes. The third staff starts with a bass note followed by eighth notes. Below each staff, there are numerical markings indicating harmonic functions: 6, 6, 6, 6, 6, 6, 7, 6, 6, 7, 6, 6, 7, 6, 6, 5, 6, 4, #6; 6, —, —, 6, 7, 6, 6, 5, 6, 6, 6, 7, 6, 6, 7, 6.

(e) *Sollt ich meinem Gott nicht singen*

Musical score for "Sollt ich meinem Gott nicht singen" in bass clef, 4/4 time, and B-flat major. The score consists of four staves of music. The first staff starts with a bass note followed by eighth notes. The second staff begins with a bass note followed by eighth notes. The third staff starts with a bass note followed by eighth notes. The fourth staff starts with a bass note followed by eighth notes. Below each staff, there are numerical markings indicating harmonic functions: 5, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 7, 6, 6, 6, 6, 6, 6, 6, 4, 5; b, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 7, 6, 6, 6, 6, 6, 6, 6, 5; 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 7, 6, 6, 6, 6, 6, 6, 6, 5; b5, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 7, 6, 6, 6, 6, 6, 6, 6.

7

THE SIX-FOUR-CHORD (i)

The 6-4-chord
The 'appoggiatura' or 'cadential' 6-4-chord

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

The final cadence progression is basically as follows:

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

(This 6-5 dissonance could be 'vertically' analysed as the 1st inversion of the 7-chord on C:

but this somewhat theoretical approach is hardly convincing, for there can be no doubt that Praetorius viewed E as the root of the entire final bar.)

As the 6-5 dissonance is resolved, the tenor moves from the 5th to the 4th. It is at this point that we hear the **6-4 chord**. The tension of the 6-5 dissonance is released, but not entirely removed, for we sense that the 6-4 chord too requires a descending movement: the 6th moves to the 5th and the 4th to the 3rd:

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

Goudimel's first 6-4-chord underlines the tension of the movement from C to B in the cantus firmus, lending it almost the character of a suspension and resolution. This brings us back to the beginning of Part II of *The Lost Chord*, where in the descending scale we noted the release of tension when the 6th falls to the 5th, and the 4th to the 3rd. It also recalls the origins of the 6-chord discussed in ch.7 of the same volume. The 6-4-chord combines the 'downward pull' of both the 6th and the 4th, and requires a 'resolution' to a 5-3-chord above the same bass note. For this reason the 6-4-chord in the example by Goudimel is sometimes called the appoggiatura 6-4-chord. The second of Goudimel's 6-4-chords is more in line with later usage, when the 6-4-chord became used primarily in the approach to the cadence. It is therefore more commonly referred to as the cadential 6-4-chord, reflecting this standardised use, which will be illustrated later in the chapter.

In view of its intervals, the 6-4-chord is in itself rather unstable, and considerably more so than the 6-chord. Unlike the 6-chord, the 6-4-chord may therefore only be used in specific situations, which will be discussed below and in ch.11.

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

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

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

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

EXERCISES:

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

A musical staff in G major (one sharp) with a treble clef and a bass clef. It shows three vertical stacks of notes. The first stack has a G on top, a B in the middle, and an E on the bottom. The second stack has a G on top, a C sharp in the middle, and an E on the bottom. The third stack has a G on top, a D sharp in the middle, and an E on the bottom. A brace groups the first two stacks, and the word "etc." is written below the third stack.

2. Repeat the exercise in all minor keys:

A musical staff in A minor (no sharps or flats) with a treble clef and a bass clef. It shows three vertical stacks of notes. The first stack has an A on top, a C sharp in the middle, and an E on the bottom. The second stack has an A on top, a D sharp in the middle, and an E on the bottom. The third stack has an A on top, a G in the middle, and an E on the bottom. A brace groups the first two stacks, and the word "etc." is written below the third stack.

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

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

A musical staff with a treble clef and a bass clef. It shows three vertical stacks of notes. The first stack has an A on top, a C sharp in the middle, and an E on the bottom. The second stack has an A on top, a C sharp in the middle, and an E on the bottom. The third stack has an A on top, a C sharp in the middle, and an E on the bottom. A brace groups the first two stacks.

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

A musical staff with a treble clef and a bass clef. It shows three vertical stacks of notes. The first stack has an A on top, a C sharp in the middle, and an E on the bottom. The second stack has an A on top, a C sharp in the middle, and an E on the bottom. The third stack has an A on top, a C sharp in the middle, and an E on the bottom. Below each stack are numbers indicating note values: 6 over 4, 5 over 3, 6 over 4, 5 over 3, 6 over 4, and 5 over 3. The staff ends with a repeat sign.

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

EXERCISES:

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

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

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

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

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

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

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

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

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

is extended to become:

EXERCISES:

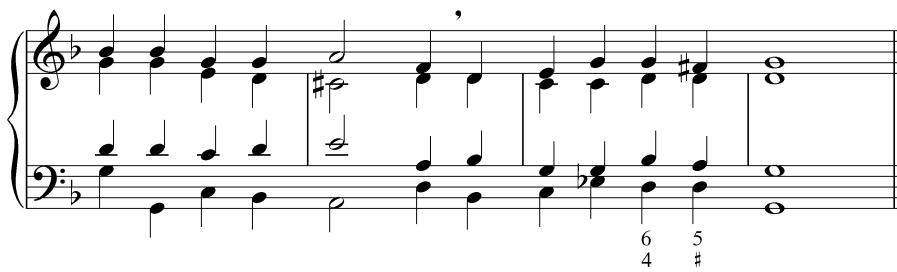
6. Play the following phrases in all major keys:

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

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

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

6 5
4 3



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



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



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

EXERCISES:

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

10. Practise the following cadences in all minor keys:

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

12. Practise the following cadences in all minor keys:

<img alt="Musical score for two voices in 2/2 time. The top voice starts with a half note, followed by quarter notes with accidentals. The bottom voice starts with a half note, followed by quarter notes. The score consists of four measures per system, with systems separated by vertical bar lines. Measures 1-2, 3-4, 5-6, 7-8, 9-10, 11-12, 13-14, 15-16, 17-18, 19-20, 21-22, 23-24, 25-26, 27-28, 29-30, 31-32, 33-34, 35-36, 37-38, 39-40, 41-42, 43-44, 45-46, 47-48, 49-50, 51-52, 53-54, 55-56, 57-58, 59-60, 61-62, 63-64, 65-66, 67-68, 69-70, 71-72, 73-74, 75-76, 77-78, 79-80, 81-82, 83-84, 85-86, 87-88, 89-90, 91-92, 93-94, 95-96, 97-98, 99-100, 101-102, 103-104, 105-106, 107-108, 109-110, 111-112, 113-114, 115-116, 117-118, 119-120, 121-122, 123-124, 125-126, 127-128, 129-130, 131-132, 133-134, 135-136, 137-138, 139-140, 141-142, 143-144, 145-146, 147-148, 149-150, 151-152, 153-154, 155-156, 157-158, 159-160, 161-162, 163-164, 165-166, 167-168, 169-170, 171-172, 173-174, 175-176, 177-178, 179-180, 181-182, 183-184, 185-186, 187-188, 189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 203-204, 205-206, 207-208, 209-210, 211-212, 213-214, 215-216, 217-218, 219-220, 221-222, 223-224, 225-226, 227-228, 229-229, 230-230, 231-231, 232-232, 233-233, 234-234, 235-235, 236-236, 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13.* Repeat ex.9-12 with a solo stop and pedals.

14. Play the following cadential phrases in four parts:

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

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

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

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

(a) *Ohne Rast und unverweilt*

Musical score for 'Ohne Rast und unverweilt' in two staves. The top staff is in G clef, B-flat key signature, and 4/4 time. The bottom staff is in F clef, B-flat key signature, and 4/4 time. The music consists of eighth-note patterns. Pedal points are marked with numbers below the bass staff: 6, 6, 7, —, 6, 6, 6, 4, 3, 6, 6, 5, 6, 6, 5, 3, 4. Measure endings are indicated by commas at the end of each measure.

(b) *Christus der ist mein Leben*

Musical score for 'Christus der ist mein Leben' in two staves. The top staff is in G clef, B-flat key signature, and 4/4 time. The bottom staff is in F clef, B-flat key signature, and 4/4 time. The music consists of eighth-note patterns. Pedal points are marked with numbers below the bass staff: 6, 6, 6, —, 6, 6, 5, 3, 6, 6, 5, 6, 5, 4, 3. Measure endings are indicated by commas at the end of each measure.

(c) *Melcombe*

Musical score for 'Melcombe' in two staves. The top staff is in G clef, B-flat key signature, and 4/4 time. The bottom staff is in F clef, B-flat key signature, and 4/4 time. The music consists of eighth-note patterns. Pedal points are marked with numbers below the bass staff: 6, 6, 5, 6, 6, 5, 6, 4, 6, 5, 6, 5, 6, 4, 3. Measure endings are indicated by commas at the end of each measure.

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

Musical score for 'Ich will dich lieben, meine Stärke' in 4/4 time. The score consists of two staves: treble and bass. The treble staff has a key signature of one sharp (F#). The bass staff has a key signature of one sharp (F#). The music features eighth-note patterns and rests. Below the notes are Roman numerals indicating harmonic progressions: 6, 6, 7, 7, 6, 6, 6, 6, 6, 5, 4, #, 6, 6, 5, 3.

(e) *Kommt Kinder, lasst uns gehen*

Musical score for 'Kommt Kinder, lasst uns gehen' in 4/4 time. The score consists of two staves: treble and bass. The treble staff has a key signature of one sharp (F#). The bass staff has a key signature of one sharp (F#). The music features eighth-note patterns and rests. Below the notes are Roman numerals indicating harmonic progressions: —, 6, 6, 6, 4, 3, 6, 5, 3, 6, 6, 6, 9, 8, —, 6, 6, 6, 4, 3, 6, 5, 6, 7, 6, 5, 6, 7, —, 6, 6, 6, 4, 3, 6, 5, 6, 7, 6, 5, 6, 7, —, 6, 6, 6, 4, 3, 6, 5, 6, 7, 6, 5, 6, 7, —, 6, 6, 6, 4, 3, 6, 5, 6, 7, 6, 5, 6, 7, —, 6, 6, 6, 4, 3, 6, 5, 6, 7, 6, 5, 6, 7.

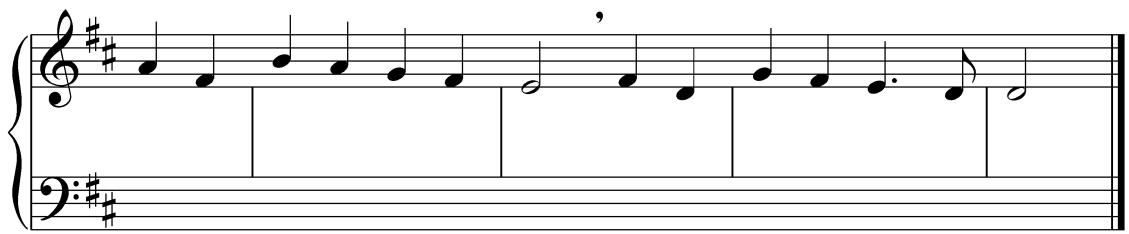
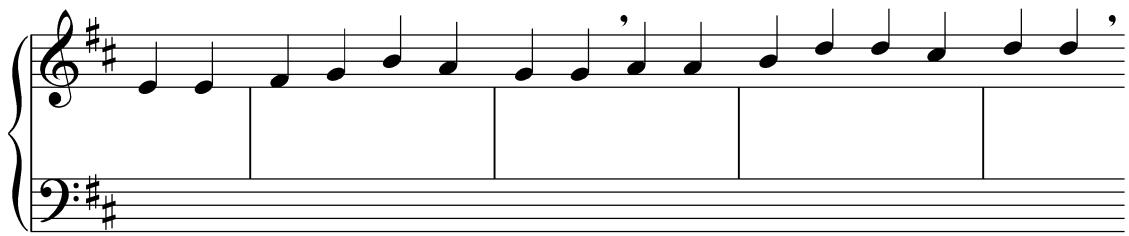
(f) *Leicester*

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

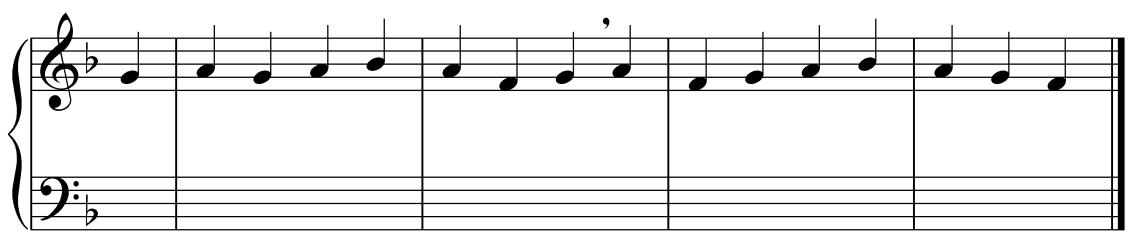
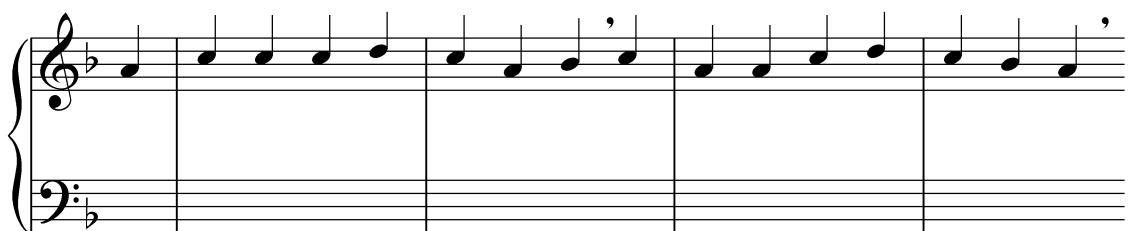
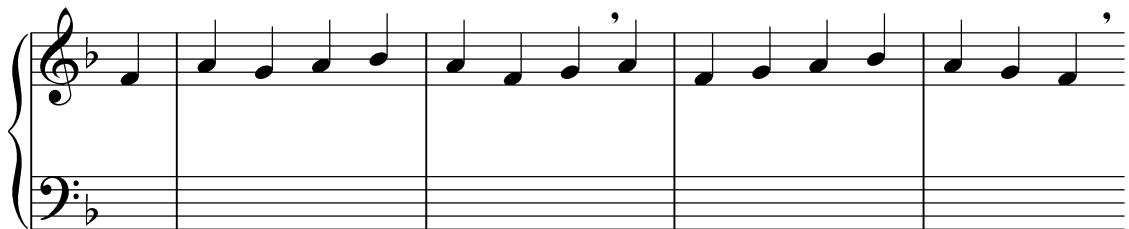
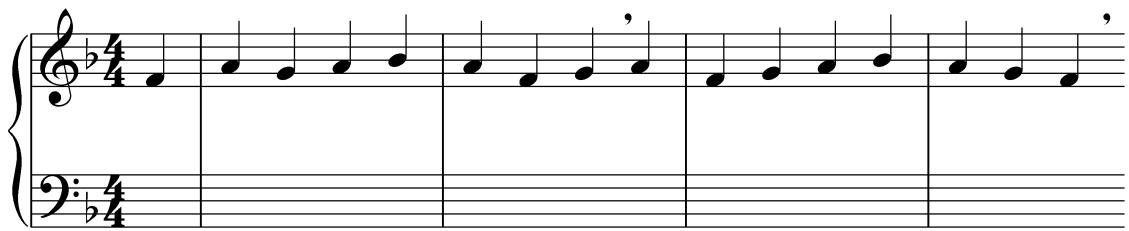
20. Practise the following transpositions: *Ohne Rast* in G and A; *Christus der ist mein Leben* in C and E flat; *Melcombe* in D and F; *Ich will dich lieben* in D and B flat; *Kommt Kinder* in F and A; *Leicester* in G and B minor.

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

(a) *Jesu, meines Lebens Leben*



(b) *Die Wanderschaft in dieser Zeit*



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

A musical score for two voices. The top voice is in soprano C major (G clef) and the bottom voice is in bass F major (F clef). Both voices are in common time (indicated by a '4'). The music consists of two staves of four measures each, separated by a double bar line with repeat dots. The notes are mostly quarter notes, with some eighth and sixteenth note patterns.

(d) *Easter hymn*

A musical score for two voices. The top voice is in soprano C major (G clef) and the bottom voice is in bass F major (F clef). Both voices are in common time (indicated by a '4'). The music consists of four staves of four measures each, separated by double bar lines with repeat dots. The notes are mostly quarter notes, with some eighth and sixteenth note patterns.

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

Two examples of figured bass notation. Bass clef and common time are indicated. Bass line: i) 6 5 6 3 6 4 7 | ii) 6 6 5 4 6 5 4 3. Figuring below the bass line: i) 6 5 | ii) 6 6 5 4 6 5 4 3.

iii

iv

v

vi

vii

viii

ix

x

xi

xii

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

i

ii

iii

iv

v

vi

vii

viii