THE DYNAMICS OF HARMONY
Principles & Practice

GEORGE PRATT
# Contents

*Foreword*  
iv  
*Acknowledgements*  
v  
*Introduction*  
vi  

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Static harmony, consonance and dissonance</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Dominant to tonic</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Interlude I: the major–minor misapprehension</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>Second level dominants</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>Third level dominants—and beyond</td>
<td>37</td>
</tr>
<tr>
<td>6</td>
<td>Interlude II: a note on inversions</td>
<td>46</td>
</tr>
<tr>
<td>7</td>
<td>Closing the circle</td>
<td>51</td>
</tr>
<tr>
<td>8</td>
<td>Segments of the circle and excursions on the way round</td>
<td>60</td>
</tr>
<tr>
<td>9</td>
<td>Interlude III: the linear flow of parts in chorales—and elsewhere</td>
<td>72</td>
</tr>
<tr>
<td>10</td>
<td>Substitutes, thirds and steps</td>
<td>87</td>
</tr>
<tr>
<td>11</td>
<td>More colourful dominants: diminished sevenths</td>
<td>98</td>
</tr>
<tr>
<td>12</td>
<td>More colourful dominants: augmented and Neapolitan sixths</td>
<td>107</td>
</tr>
<tr>
<td>13</td>
<td>Interlude IV: more on piano textures</td>
<td>116</td>
</tr>
<tr>
<td>14</td>
<td>Irresolute progressions, episodic six-threes, reverse thrusts and pedals</td>
<td>122</td>
</tr>
<tr>
<td>15</td>
<td>Harmonic puns and further modulation</td>
<td>133</td>
</tr>
<tr>
<td>16</td>
<td>Further exploration</td>
<td>146</td>
</tr>
</tbody>
</table>

*Selected index*  
149
Foreword

This book is a thoroughly considered reappraisal of the teaching of traditional harmony. The laboratory in which these methods have been tried and tested was the Music Department at Keele University, where I was Professor of Music from 1974 to 1984 and a colleague of the author. Although our new Department developed research interests and facilities in some novel areas such as American music, popular music, electronic studio and jazz, there was never any question of dispensing with the study of the material of Western music and its heritage of masterpieces from the sixteenth to the twentieth centuries—in spite of John Cage’s declaration that ‘everything one needs to know about classical harmony can be taught in one half hour.’

Cage’s exaggeration draws attention to the fact that there is now a vast amount of music outside the aegis of Western functional harmony and time is short, especially in joint-honours courses. George Pratt addresses himself to the task of getting the best results in the minimum time so that the technical elements can be effectively learnt from the start of the first year or before. He has never condoned the teaching of musical practice in the abstract, so the book is full of real music. I think he has been completely successful in his aims and I expect that at least a generation of teachers and students will be grateful to him.

Peter Dickinson

Author’s Note

When The Dynamics of Harmony was first published a decade ago, my intention was simply to share with music students and teachers an approach to common-practice harmony which had worked effectively for a number of years in my own teaching. Many students, on coming to university, had thoroughly learnt the chordal vocabulary of Western harmony, but without a clear view of how it is ordered and directed towards a goal—a phrase-ending, a paragraph, the span of a complete movement.

I focused on the dominant-directed nature of much harmony; extended this to another concept, ‘substitute chords’; de-mystified chromaticism by stripping it down to its bare essentials. Above all, I wanted to promote the study of harmony as a tool for analysing and revealing the delight of real music and I based all the examples on three ‘core texts’—a Schubert song-cycle, Mozart’s piano sonatas, and Bach’s chorale harmonisations.

Early generous reviews suggested that my concern was widely shared and my solutions warmly welcomed. Through four reprints, the book
has taken on a momentum of its own as teachers who were brought up on it, use it in turn with their own students.

The appetite for our musical heritage seems insatiable: recording companies pour out more and more fine performances, radio provides wall-to-wall ‘classical’ music 24 hours a day. The danger is that such riches lead to music becoming devalued. If _The Dynamics of Harmony_ continues to reveal some of what Milton described as the ‘hidden soul of harmony’, through examining the craftsmanship which creates that sense of barely-definable perfection in a piece of music, I shall be well content.

_George Pratt_

1996

Acknowledgements

The stimulus to write this book has come from students whom I have taught, at Abingdon School and at Oxford in the 1960s, and at Keele University since. It was they who showed me that, while a vocabulary of vertical chords is normally acquired in preparation for school-leaving examinations, a feel for the tonal grammar and the melodic forces which guide their use is by no means so easily achieved. I then gained a great deal from discussions with Dr. Stephen Banfield, a colleague in the Music Department at Keele.

In particular I am indebted to the cohort of first-year undergraduates of 1983–4 at Keele who, with two of my colleagues to guide them, used a draft as a text-book. They were never slow to point out both grammatical infelicities and spelling mistakes (for which, of course, I always blamed my typing). More importantly, they considerably influenced the ordering of the material and the words in which I presented it.

Several individuals with markedly different academic and performing interests have also read the draft, in particular Professor John Paynter of York University, Janet Ritterman of Goldsmiths’ College in the University of London, and my father, Ernest Pratt. Although I have benefited greatly from their suggestions and, above all, from their encouragement, I retain full responsibility for any errors of fact or judgment which may remain.

_George Pratt_

_University of Keele_

_April 1984_
Introduction

An understanding of harmonic processes is an invaluable aid to any musician, whether performer, listener or analyst, on several counts.

It creates, as do all kinds of familiarity with notation, a route to musical literacy and aural perception. Separate notes, like words, can be picked up off the page and ‘understood’ to some limited extent. But they can be grasped far more quickly and easily, and their deeper meaning seen more clearly, if they are read in groups, as elements in a wider grammatical construction.

Written music is hard to decipher silently through the eye and the imagining ear. We begin to learn it late; it requires extreme precision in perceiving pitch and rhythm compared with the needs of the written word; it involves retaining several symbols at once to assemble the composite sound of a single chord let alone the musical continuity of several harmonic progressions or the flow of contrapuntal lines. It is like reading several texts at once, an almost inconceivable challenge as far as written words are concerned. Any effective exercise in developing accuracy in reading this language of ours is beneficial.

A grasp of harmony is an essential tool for musical analysis. We can listen to music simply as sheer sound which washes over us, in one ear and out of the other, as we can listen to Hamlet translated into Serbo-Croat and enjoy the sound, with no understanding of it at all. But with analysis, not a dull examination-style dissection but a search for the processes, on the largest scale and in the smallest detail, which occupied the conscious or unconscious mind of the composer, we achieve an entirely different level of comprehension and appreciation. The sheer sound remains, but now enhanced by our grasp of the forces at play, of the tensions, the artistry and the overwhelming craftsmanship of an outstanding mind, long dead perhaps but reanimated by the performance of his music.

Harmonic usage is a salient part of most musical styles. Any historical assessment of a composer’s music requires a recognition of the harmonic conventions familiar to him, how far they were adhered to, how far rejected or distorted. To make such judgments, an understanding of these conventions is indispensable.

What an understanding of harmony through writing imitatively will not do is make an original composer. There is little call for additional madrigals by Monteverdi or string quartets by Shostakovich, and if we wrote them they would probably be second-rate, anyway. At the level of original art, pastiche is really only useful as an aid to musical literacy, to
help a composer to acquire the ability to notate his ideas quickly and precisely.

This book, from Chapter 2 onwards, stems from teaching undergraduate music students for many years. However highly qualified they may be on entry to University, present school examination options produce wide disparities between them in reading and manipulating notes on paper and in analytical skills. Fine performers often cannot read without their instruments: many excellent historians of musical information have missed out the study of the techniques, of which harmony is one, for analysing the music itself. Even those who have been through traditional ‘harmony’ courses often have a generous vocabulary of vertical chords but little grasp of the contexts in which they may occur or of their implicit horizontal drive. A harmony is meaningless in isolation. It takes on meaning only in a time continuum. Its sense of motion, where it has come from and where it is probably going, is a powerful force, whether presented chord-by-chord as in a hymn or in the lines of counterpoint in a fugue or a canon.

The first chapter has been added to make the material accessible to anyone with a sound grasp of rudiments. A knowledge is assumed of notational conventions, key signatures, major and minor scales and intervals. Given this minimum foundation, the book can be used in various ways.

As a text-book for students at school or college it provides a coherent plan for starting harmony from scratch. In this case, teachers will want to slow down the pace at which ideas are presented, and to develop in their own words points as they arise. They will need to select exercises, and add to the number and range of ‘supplementary’ exercises, in response to the individual needs of their students. The supplementary exercises are offered only as suggestions. More can be invented indefinitely, developing over a longer musical time-span and reaching chronologically forward and back through the whole repertoire of tonal music.

For those who have already studied harmony to some level, the book can be used to cast new light on harmonic processes. In this case the pace will be different: the first two chapters may appear more or less self-evident and only need reading through quickly with selected exercises worked to confirm the student’s grasp of the principles involved. Later chapters will need a much more thorough approach: there are few first-year undergraduate music students who can imitate a dozen bars of a Mozart piano sonata, let alone a whole movement, well enough to deceive the informed ear. Again, tutors will probably wish to control the pace and adjust the range of exercises to individual requirements.

For the interested amateur listener, the book provides an insight into the dynamics of harmony even if the exercises are not worked through systematically. Simply reading through the text and thoughtfully playing the examples on piano or gramophone will awaken an awareness of how at least three composers sustain a harmonic impetus in their music.

For the performer, amateur and professional alike, a grasp of compositional principles including the vertical and horizontal implications
of harmony is essential. The recognition of the nature of a dissonance or the tension of an unexpected change of harmonic direction is a vital step towards deciding how it should be played. The memorising feats suggested in some of the 'mental hearing and analysis' exercises are also of immediate practical value to performers whether they choose to play wholly from memory or simply need release from being 'copy-bound' as they practise.

Because points are made succinctly and are illustrated by the music itself rather than by verbiage about music, presentation of the material may appear rather dense. So for readers using it not as a means only of knowing roughly how harmonic progressions work but also to gain fluency in actually writing them, there will always be a need to slow the pace down. A single sentence often describes an exercise which may serve as the core of a whole week's work in the area of musical literacy for a school, college or university student.

Among practical considerations, this book differs from other courses on harmony in the stress it lays on dominant relationships at various levels, in the concept of 'substitutes' and the emancipation of mode, and above all in the methodological devices it suggests for developing aural perception and applying it at once and in considerable detail to real music. However, no claim is made that the actual material in the book is particularly original. Rameau recognised the supremacy of the dominant nearly 250 years ago and Schenker has reiterated it in this century.

All examples are taken from three 'core texts'. The reasoning behind this is that illustrating any harmonic device by quoting a bar or two of music otherwise not familiar tells us virtually nothing at all about either the impact of the particular device, or the music from which the example is taken. To show that, say, an Italian sixth chord appears in a given bar of a Beethoven string quartet is meaningless unless we know the wider context: is it one of many at this point? Is it an isolated moment of particular harmonic tension? Is it perhaps the only Italian sixth that Beethoven ever wrote?

So the examples in the text are themselves as extensive as the economics of publishing allow, and you are strongly recommended to acquire copies of this limited repertoire: you may have them already; they are almost certain to be in school, college or public libraries; they can be purchased in the editions suggested which are selected for their cheapness as well as their reliability. They are:

F Schubert: Song cycle Die schöne Müllerin. published by Lea Pocket Scores, no. 23.

They are referred to in the text by title, bar number and beat: e.g. Die schöne Müllerin no. II 'Wohin?', b 101.

If these scores are available, all examples from them should be played or
heard in their larger context, a whole chorale, a whole sonata movement or a whole song at least. The sonatas and the song-cycle are accessible through commercial recordings. However, if you do not have access to scores and discs or tape, all the examples in the text are complete and all the 'mental hearing', 'analysis' and 'imitative' exercises can be done without additional material. The 'supplementary' exercises though do assume some more music, the core texts and/or anything else you may have acquired through learning an instrument or building a library of vocal, orchestral and instrumental scores, perhaps to enhance a record collection.

Note particularly that limiting examples to a single group of works from three composers is in no way intended to imply any limitation in your repertoire. On the contrary, the absence of selected examples from elsewhere should be looked on as an invitation to search everywhere for further material. Everyone has a legal right of access to public libraries. Use it. University, polytechnic and college students normally have music collections immediately to hand in institutional libraries. Browse and borrow. Or perhaps you are learning a Haydn piano sonata, a Brahms intermezzo or a Joplin piano rag. Each is potential material for either momentary analysis of fragments or, occasionally, 'total analysis' to assess the impact of every note. Perhaps you are not a performer at all. Recordings and matching scores provide limitless material, and everyone has a voice with which to sing.

Neither 'mental hearing' nor 'analysis' need mean a formal period of time spent poring over a score at piano or desk but includes recognising by ear the opening progression of a movement heard on radio or a TV advertising theme, or a fragment of 'Muzak' in a supermarket.

'Imitation' need not mean extensive written exercises in only three styles: improvise at the keyboard an alternative eight bars of a dance movement from a baroque harpsichord suite or an additional verse of a Cole Porter song if your current interest has steeped you in one or other of these idioms; create in your head the opening of a Vivaldian concerto, or of a Slavonic dance to add to those of Dvořák.

The most precious quality you can cultivate is the kind of musical inquisitiveness and curiosity which is implied by these suggestions. Attitudes of mind and a lateral and inventive imagination contribute more to the development of a perceptive ear and accuracy in analysis and notation than any planned course of study, however conscientiously you follow it.

From a teacher's point of view, such permissiveness may present a dilemma: will such freedom lead to misunderstanding by students and to the study and absorption of their own errors? Experience strongly suggests that a few grammatical mistakes which can be identified and corrected by a tutor are far preferable to the sense of inhibition and of being hedged round by rules which leads to the composing of a style of 'music' only found in text-books.

Very little historical perspective is explained: a history of the sparking-plug will not help you to dismantle or assemble the lawn-mower. At times
Introduction

though such background information can clarify a point, and it is then provided.

No book on harmony can claim to be exhaustive and this one is no exception. It does not explain every possible harmonic phenomenon through the whole 350 years and more of the tonal tradition. Instead, it is concerned with what actually happens in a limited range of musical structures and idioms. Given a sound methodology, you can extend this experience for yourself, by analogy, by further reading and, above all, by listening. The fundamental processes in tonal harmony are common throughout. It is the time-span, the selection and density of dissonances and the range of tonal excursions which change with the centuries.
Untwisting all the chains that tie
The hidden soul of harmony

(Milton: L'Allegro)
CHAPTER 1

Static Harmony, Consonance and Dissonance

1.1 TRIADS

Harmony consists of vertically constructed chords and their horizontal relationship to each other. The smallest number of notes which will create self-sufficient and consonant harmony as opposed to a single note, is two, the ROOT and the THIRD. The density of this sound is increased by the addition of a FIFTH to create a TRIAD, three notes such as those in Ex. 1a. Whether the third is major or minor determines the 'major' or 'minor' character of the chord. Triads with major thirds are conventionally indicated by capital Roman numerals, 'I', 'V', etc. Lower case numerals, 'ii', 'vi', indicate triads with minor thirds.

Ex. 1a Triads in C major

<table>
<thead>
<tr>
<th>Chord</th>
<th>Roman Numeral</th>
<th>Third Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>TONIC</td>
<td>I</td>
<td>major third</td>
</tr>
<tr>
<td>DOMINANT</td>
<td>V</td>
<td>major third</td>
</tr>
<tr>
<td>SUPERTONIC</td>
<td>ii</td>
<td>minor third</td>
</tr>
<tr>
<td>SUBMEDIAN</td>
<td>vi</td>
<td>minor third</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>iii</td>
<td>minor third</td>
</tr>
<tr>
<td>LEADING NOTE</td>
<td>vii</td>
<td>minor third, diminished fifth</td>
</tr>
<tr>
<td>SUBDOMINANT</td>
<td>IV</td>
<td>major third</td>
</tr>
</tbody>
</table>

Such ROOT POSITION chords can be described by the figures \( \frac{3}{4} \) implying the presence above a bass note of a third and a fifth.

1.2 Mental hearing and analysis exercise

Sit at a keyboard instrument and shape your hand so that you are bound to play a triad. Shut your eyes and play triads at random. Identify them
1.3 A purely theoretical approach to minor keys, 'melodic' and 'harmonic', introduces a host of unnecessary complications: raised or lowered submediants and leading notes seem to create augmented and diminished triads of bewildering variety.

In fact:

(a) Where a composer sticks rigidly to a minor key, only some of the apparent options occur regularly.

Ex. 1b shows the triads most usually encountered in music constrained by ‘c minor’.

Play these triads. You will find that ii and vii sound cramped because of their diminished fifth. This quality is relieved by inversion, to be discussed later.

(b) As Chapter 3 will explain, ‘minor’ and ‘major’ are not as distinct from each other as distilled theorising may suggest. Some minor-key chords altered by accidentals are no more than welcome visitors from the major side.

Ex. 1b

\(\text{Tonic – i} \) \\
(minor third)

\(\text{Dominant – V} \) \\
(third normally raised, ‘leading’ to tonic)

\(\text{Supertonic – ii} \) \\
(minor third, diminished fifth, so normally inverted *)

\(\text{Submediant – VI} \) \\
(major third)

\(\text{Mediant – III} \) \\
(major third)

\(\text{Leading Note – vii} \) \\
(minor third, diminished fifth, so normally inverted *)

\(\text{Subdominant – iv} \) \\
(minor third)

1.4 CONSONANCE AND DISSONANCE

These are easier to hear than to explain in words.

1.4.1 A valuable aural exercise, to repeat for as many weeks or months as are needed to achieve absolute accuracy, is to play two notes on the piano, one

*Inversions are explained in 1.5.

It is not too soon to suggest that, in some contexts, vii does not really exist at all but is a version of V (10.6.1. examines this notion further). In other cases the predictability of harmony following well-tried patterns can make even the most obtuse sounds including diminished triads acceptable for a moment: this too is discussed later (7.4).
4 Pratt: The Dynamics of Harmony

with each hand, at random and with your eyes closed. Name the interval they make and then confirm your accuracy by looking at the keyboard. At first, keep within one octave.

1.4.2 Alternatively select an interval by nomenclature, 'perfect fifth', 'minor third', and then sing, hum or imagine its two component notes, beginning with the lower one.

1.4.3 You will probably conclude something along the following lines:

(a) consonant and potentially final sounds are unison, octave and major or minor thirds

(b) Also consonant are perfect fifths (too empty, though, to be satisfactorily sustained without an intervening third) and perfect fourths (but top-heavy and anything but a feasible final sound. Heard above a bass note, a perfect fourth is indeed considered dissonant).

(c) Consonant, but not potentially final, are sixths, major and minor.
(d) The remainder, major and minor seconds, augmented fourth/diminished fifth and major and minor sevenths, are dissonant to a greater or lesser extent.

1.4.4 Do not associate 'consonant' with 'desirable' or 'good' and 'dissonant' with 'bad' or 'ugly'. Wholly consonant music would be short-lived indeed thanks to its tedium. In the context of tonal harmony, unrelieved dissonance too would pall: and the very sense of dissonance itself would be lost without relative consonance with which to create, in turn, tension and release.

1.5 INVERSIONS

Triads can be put into 'first inversion' by taking the root from the bottom, leaving the third functioning as a bass note. The notes above the bass then will be 5, 6 denoting the root and 3 the fifth. (The names 'root' and 'fifth' etc. are retained although they are not now at this distance from the bass). The distribution of notes above the bass notes does not affect the way the chord is described: both chords marked * in Ex. 1c are first inversions of ii, the supertonic, in C major. Another musical short-hand is, for root position, 'a', and for first inversion, 'b'.

Ex. 1c Inverting I and ii in C major

\[
\begin{array}{ccccccc}
\text{Ia} & \text{Ib} & \text{Iia} & \text{Iib} & \text{Iia} & \text{Iib} \\
\left(\frac{5}{3}\right) & \left(\frac{5}{3}\right) & \left(\frac{3}{3}\right) & \left(\frac{5}{5}\right) & \left(\frac{3}{3}\right) & \left(\frac{5}{5}\right)
\end{array}
\]
Static harmony, consonance and dissonance

Inversion relieves diminished triads such as vii, or ii in the minor mode, of their cramped quality. While seldom found in root position, in first inversion they are thoroughly acceptable. Play Ex. 1d.

Ex. 1d  ii a and ii b in the minor mode

1.6  Triads are NOT used indiscriminately in second inversion, i.e. with the third also taken from the bottom, leaving the fifth functioning as a bass note. Avoid this (denoted as e.g. Ic, iic, etc.) at all costs until you have read Chapter 6.

1.7  SEVENTHS

Chords often have a further note, a seventh, added to the heap of thirds which make a triad. Details of their treatment are found first in Chapter 2, but it is as well to be aware of their presence already. They are denoted $V^7$, $ii^7$, etc.

The addition of a seventh enriches a chord sufficiently for it to sound complete, though anything but stable or final, in second inversion. By counting up from the bass note you can calculate the figuring: $\frac{6}{4}$, e.g.

or, in C major, $V^7c$; ‘$V$’ = dominant, ‘$7$’ = with a seventh added, ‘c’ = with not root, nor third, but fifth as the bass note.

To complete a picture which we shall not look at again until later, work out the figuring for the last inversion of the dominant seventh. Then, having done so, look below.

Specimen answer:

$\frac{6}{2} = V^7d$.

1.8  Ninths are also added though much less frequently, and then often with the ninth as a decoration such as an appoggiature. *

1.9  Exs. 1e, 1f and 1g show some root position and first inversion harmony with an additional bass line showing the roots of all the chords.

---

*By the beginning of the twentieth century, ninths, elevenths and thirteenth create self-standing chords of up to seven different notes, but these do not belong to the styles of the three 'core texts', Bach chorale harmonizations, Mozart piano sonatas and Schubert's song-cycle *Die schöne Müllerin*. 
6 Pratt: *The Dynamics of Harmony*

**Ex. 1e** Bach: Riemenschneider 80, chorale harmonisation, ‘O Haupt voll Blut und Wunden’, bb1–2

**Ex. 1f** Mozart: Sonata K576, third movement, bb1–4

**Ex. 1g** Schubert: ‘Pause’, *Die schöne Müllerin* no. XII, bb20–3

[Ziemlich geschwind]

1.10 Mental hearing and analysis exercise

Take any two pieces of tonal music, the first preferably from one of the
Static harmony, consonance and dissonance

three ‘core texts’ and the second as far-reaching as you like. Play, read or hear them on record or tape and identify chords in root position and first inversion, ignoring the rest, i.e. those in other inversions or complicated by suspensions, appoggiaturas or any other intensification which clouds the issue.

1.11 Imitative exercise
Write some root position chords in various styles: half-a-dozen four-part chords which could have come from a chorale (on two staves); some piano chords composed out into a whole bar or more of broken chords; a dominant seventh for string quartet or a tonic minor chord for wind octet. Then do the same with some first inversions.

1.12 MODULATION

‘Modulation’ implies the moving of a key-centre, a tonic, from one level to another. A sonata movement in Bb major such as K333 (turn to Chapter 15, Ex. 15i) begins in Bb major (b1...) but, by the second subject, it is clearly centred in F major (b23). It has modulated to the dominant.

The first sign of the moving of the key-centre is at b12 where E is naturalised. If it were flattened again within a bar or two, its effect would have been brief and less significant. But from this point onwards, every E is naturalised. Bar 23, then, begins not simply with the chord of F but in the key of F.*

Play this exposition or, better still, the whole movement if you have it, on the piano or on record or tape. Consider how far b23 sounds like a new centre. Is it wholly secure or do you still recollect the original Bb enough to feel that the movement could not end in F?

The process of modulation can be achieved in many other ways and it is so easily confused with momentary ‘colouring’ of harmony by chromaticism that, rather than being explored fully here, it is best met little by little as various aspects of harmony are considered. The elements of it are gathered together in a summary in Chapter 15.

*This discussion is expanded in 15.10, by which point the harmonic principles involved will have become clearer.
## SUMMARY OF CHAPTER 1

1. Triads consist of root, third and fifth.
   They can be constructed on:

<table>
<thead>
<tr>
<th>Triad</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>the tonic</td>
<td>I (= major triad) or i (= minor triad)</td>
</tr>
<tr>
<td>the supertonic</td>
<td>ii</td>
</tr>
<tr>
<td>the mediant</td>
<td>iii/III</td>
</tr>
<tr>
<td>the sub-dominant</td>
<td>IV/IV</td>
</tr>
<tr>
<td>the dominant</td>
<td>V (rarely v)</td>
</tr>
<tr>
<td>the sub-median</td>
<td>vi/VI</td>
</tr>
<tr>
<td>the leading-note</td>
<td>vii (rarely except in first inversion)</td>
</tr>
</tbody>
</table>

2. The sound is cramped if the fifth is diminished but:
   (a) the fifth may be raised by an accidental or
   (b) the sound may be released by being expressed in first inversion

3. Triads exist in various positions:
   - Root position, denoted by 'a' or 1
   - First inversion, denoted by 'b' or 3

4. Second inversions of triads are a special case and are not viable alternatives to root position and first inversion, at least in the styles of the three 'core text' composers, Bach, Mozart and Schubert.

5. With a seventh added, a chord can appear in:
   - root position, denoted by '7a' or 7
   - first inversion, denoted by '7b' or 5
   - second inversion, denoted by '7c' or 3
   - third inversion, denoted by '7d' or 2

6. 'Modulation' describes the concept of shifting the tonic, the point at which music is sensed as being in repose.
CHAPTER 2

Dominant to Tonic

2.1 V7-I TO END A PHRASE

The progression from dominant chord (V) to tonic chord (I) is the most powerful in Western tonal music. In its most emphatic form, it appears at the end of phrases, with both chords in root position, with a seventh added to V. You will probably be familiar with this already, as the perfect cadence.

Paradoxically, it is logical to begin with endings. Tonal music is always being driven on in a forward direction until it reaches a cadence, a point of repose. But if you do not know where you are going, you cannot know what route to take to get you there. So a composer must conceive cadence points in advance, albeit probably subconsciously, before the preceding music, which goes to those cadences, can be fully invented.

2.2 The driving forces which impel V towards I are:

(1) the root of V leaping down a perfect fifth or up a perfect fourth.
(2) the third of V rising a semitone (hence its designation as the ‘leading’ note).
(3) the seventh of V, if present, falling a semitone. (This greatly increases the thrust of the progression.)
(4) other notes staying where they are or moving as little as possible.

Ex. 2a

![Chord Progression Diagram]

The numbers refer to the points made in 2.2 above.

2.3 Mental hearing and analysis exercises

(1) Read each cadence of Ex. 2a, worrying out the sounds line by line, singing them, and mentally combining them into harmony. Then close the book and write out what your ear (and eye) remember. Play what you have written.
(2) Search in the 'core texts' or in any music you have available, for more perfect cadences. Again, analyse them and work out in your imagination the precise sounds slowly, note by note, part by part. When you feel that ear (and eye to some extent) have memorised all, or even part, of a cadence, write it out and/or play it if you have a keyboard instrument or guitar available.

Exs. 2b–2d consist of three such examples, one from each of the suggested core texts. Again, the numbers in the progressions refer back to 2.2.

Ex. 2b  Bach: R165, 'O Lamm Gottes, unschuldig', final chords

Analysis:

(1) The bass part leaps firmly down a perfect fifth.
(2) The leading note does not lead upwards as your ear would expect. Instead, it falls, breaking the convention proposed in 2.2.2 above. This is very common in Bach's chorale harmonisations. He clearly preferred the warmth and density of a four-note chord at cadences rather than the thinner sound of (here) the alto E rising to double the soprano F in the last chord.
(3) The seventh appears as a quaver passing note and falls as expected.
(4) The remaining note moves as little as possible (though Bach had no choice in the matter since the melody of this chorale was written by Nicholas Decius in the 16th century).

Ex. 2c  Mozart: Sonata K280, the end of the first movement

[Allegro assai]

Analysis:

(1) The bass part moves firmly from the C, stated at the beginning of the left-hand broken chord, up a perfect fourth to F.
(2) The leading note, decorated with a trill and a turn, leads up to the tonic.

(3) The seventh, sounded twice in the broken chord, falls as expected.

(4) The remaining note disappears on paper because piano music does not need every note to resolve visibly. Aurally, the G probably falls to F, moving as little as possible.

(5) The last chord is stated twice. First it accommodates all the requirements imposed by the V⁷. Then it appears again with the outer Fs down an octave and with a denser texture, imparting a firm sense of finality not only to a phrase but to a whole movement.


![Musical notation]

Analysis:

(1) The bass leaps firmly down a perfect fifth.

(2) There is, unusually, no leading note as the V chord begins, though the seventh, E, enriches the texture enough to avoid the chord sounding particularly cold and bare. Because of the conventions governing minor key-signatures, the seventh degree of the scale needs raising with an accidental in order to become a ‘leading’ note, here A#. The passing note, G, before it then also needs sharpening to avoid an unmelodic leap (an augmented second from G♯ to A#). However, finally the A# rises as expected to B.

(3) The seventh falls.

(4) Of the additional notes of the V chord, the left-hand one moves as little as possible while the right-hand F# stays where it is.

2.4  Supplementary mental hearing and analysis exercises

2.4.1  Search for, sing, analyse, hear in your imagination, memorise and write out more perfect cadences. Look for them at the ends of phrases as well as at the ends of movements. Even if you are using the three core texts, look elsewhere if music is available. Beethoven's fifth symphony ends with 44 bars of V and I—though you will probably not choose to write this out. Bartok's fifth string quartet has a very clear V⁷ → I at the end of the scherzo, enriched by second violin seeking out distant additional notes:
examples such as this are ideal material for discovery, analysis, and writing out from memory.

2.4.2 Find some exceptions to, and decorations or developments of, the usual conventions. Suggestions include:

(1) Bach chorale harmonisations in which the leading note leaps to the third of the tonic (R35, ‘Gott des Himmels’, at the end of the third phrase, G# to C#);
(2) Bach cadences decorated by an anticipation—one note arriving on the tonic chord before the rest (R237, ‘Was betrübst du dich’ ends with an anticipatory G in the soprano part);
(3) Mozart cadences in which, while the bass moves from V on a weak beat to I on a strong beat (normally over a bar-line), the upper parts remain ‘suspended’ on notes of V for an extra beat. This makes the very characteristic ‘triple suspension’; play, on piano or recording, the first movement of K281 in Bb and examine the cadence before each double bar.
(4) Schubert cadences in which the bass sits on a tonic pedal (i.e. holds the tonic note), while the remaining parts form conventional V–I cadences, often several times. (Analyse the last seven bars of Die schöne Müllerin no. XV, ‘Eifersucht und Stolz’). The harmony above the repeated bass Gs reads:

\[ I \quad V \quad I \quad V \quad I \quad I \quad V \quad I \quad I \quad G \quad G \quad . \]

2.4.3 Collect half-a-dozen or more different piano figurations with which Mozart decorates a cadence: K283 ends the bridge passage with a perfect cadence in plain octaves (b 213–22); the last two notes of K281 are similar, with appoggiaturas: the eighth to ninth bars of K310 cover a perfect cadence in which the tonic resolution, marked forte, is also so insistently the beginning of a new phrase that Mozart allows parallel fifths and octaves between bass and upper notes. Both parallel fifths and parallel octaves are normally avoided, at least in music of the periods on which we are concentrating. Such progressions in parallel detract from the independence of the musical lines, though octaves to strengthen, say, a keyboard bass part are perfectly normal.

Ex. 2e Mozart: K310, bb8–9. Parallel fifths and octaves, generally avoided.

*[Suspensions are explained more fully in Chapter 9.*]
Ex. 2f  Mozart: K332, end of first movement. The bass strengthened by parallel octaves, a normal device.

2.5  *Imitative exercises*

Using the three ‘core text’ styles as models, write some perfect cadences of your own. Begin with the last two notes of an imaginary Bach chorale harmonisation. Then write a Mozartian cadence using block chords, and another in which the $V^7$ is spread over a whole bar with perhaps a broken chord in the left hand and trill in the right. A third cadence might repeat the right hand $V^7$ notes on a first beat, above a left-hand bass I, delaying the resolution of the chord until the second beat of the final bar; look again at 2.4.2(3).

Finally, invent a Schubertian piano cadence. This might be indistinguishable from Mozart, or it might repeat $V^7 \rightarrow I$ several times above a tonic pedal; look again at 2.4.2(4).

If some of these exercises pose problems, look for models in the original music of Bach, Mozart and Schubert. Revert for a while to copying, analysing and memorising. Above all, do not try to be different from your models.

This does not mean that imitative writing needs no creativity or imagination. Far from it. But your imagination will be exercised with recognising and applying the constraints of someone else’s style rather than inventing your own constraints in free composition. A Schubertian cadence, successfully invented, may mean that you have a more detailed perception of at least a fragment of his style than is often acquired by the listener or performer who has never thought to consider the function of each chord, each note and each rest.

2.6  *Supplementary imitative exercises*

Write further perfect cadences for other forces such as string quartet, violin and harpsichord, recorder consort or chamber orchestra. Examine the music of any other composers of traditional Western tonal music and imitate their styles in these two-chord moments of their music.

2.7  Probable reasons for your cadences sounding unsatisfactory may be:

1. Forgetting the potential energy in the driving forces described in 2.2. Does the leading note rise? Does the seventh of $V$ fall?
2. Omitting the third of one of the two chords. A seventh enriches the sound of $V$ enough to compensate to some extent for a missing third.
Generally, though, chords need thirds if they are not to sound bare and empty.

(3) Writing more than one major third, the leading note, in a dominant chord. Since these have an almost irresistible urge to rise (see 2.2.2) they would either both do so, creating parallel octaves (2.7.5 below) or one would have the urge frustrated—equally unsatisfying to the ear.

(4) Doubling sevenths. These too have so strong an urge in one direction, downwards, that they are not doubled.

(5) Allowing parts to move in parallel fifths or octaves, so weakening their independence of each other.

(6) Writing at uncomfortable pitches such as chords grumbling low on the keyboard or lines so far apart that the middle of the texture is left empty.

2.8 I → V⁷→ I WITHIN A PHRASE

The energy inherent in V, particularly with a seventh added, and its strong gravitational pull towards I are not confined to perfect cadences at the ends of phrases, sections and movements. The step out from the security of I to the tension of V⁷ and the reassurance of the return from tension to repose, V⁷ to I, are by far the most common progressions in music written within the tonal system.

2.9 Some analyses

2.9.1 Look first at the astonishing simplicity of ‘Das Wandern’, no. I of Die schöne Müllerin;

Ex.2g Schubert: ‘Das Wandern’, Die schöne Müllerin no. I
Das seh'n wir auch den Rädern ab,
Den Rädern,
Die gar nicht gerne stillen stehn,
Die sich mein Tag nicht müde gehn,
Die Räder.

Die Steine selbst, so schwer sie sind,
Die Steine,
Sie tanzen mit den munteren Reihen,
Und wollen gar noch schneller sein,
Die Steine.

O Wandern, Wandern, meine Lust,
O Wandern!
Herr Meister und Frau Meisterin,
Lasst mich in Frieden weiter ziehn
Und wandern.
The piano introduction consists of nothing but root position I and V\textsuperscript{7} in broken chord patterns above a bounding quaver bass. The same is true of the first eight bars of the voice part except that, in bb5 and 9, the broken V\textsuperscript{7} chord on the second beat is over a tonic pedal (as happened in the Schubert example in 2.4.2(4)).

Bar 13 sidesteps to centre on g minor but, in this new context, the first three quavers are Ib—passing notes—Ia and the last is Vb. Bar 14 remains on g with passing notes until the last quaver where again the music sidesteps, in sequence, to F. Bars 15 and 16 repeat the harmonic progressions of bars 13 and 14. But F is V of Bb, so the final four bars are again V\textsuperscript{7} $\rightarrow$ I ($\times 4$) on Bb.

In short, the whole song uses nothing but V\textsuperscript{7} and I, on three tonal centres, Bb, g and F. The progression (I)$\rightarrow$V\textsuperscript{7}$\rightarrow$I occurs fourteen times without the relief of any other progression at all, and there are five verses. A complete performance therefore uses 70 (I)$\rightarrow$V\textsuperscript{7}$\rightarrow$I progressions—and yet the song is recognised as an exhilarating introduction to one of Schubert’s greatest works.

Hear a recording of the whole song or, better still, play and sing it, at first very slowly, analysing as you do so. Then perform it up to speed.

2.9.2

Another example, as astonishing in view of the rich harmonic vocabulary we might expect, is the chorale ‘Ach Gott und Herr’ as harmonised by Bach (R40).

Ex. 2h  Bach: R40, ‘Ach Gott und Herr’
Before analysing it, there are three further concepts which need clarifying:

(1) $I \rightarrow V^7$ mirrors the kind of aural thrust of $V(7) \rightarrow I$. Where $V(7) \rightarrow I$ is a progression from tension to repose, $I \rightarrow V^7$ steps out in the opposite direction but still has a strong sense of harmonic purpose. When used to end a phrase, it logically takes the name imperfect cadence. (As it stops, momentarily, in this context the V will not normally have an unstabilising 7th added to it).

(2) The first inversion of the leading note chord, viib, is often used as a substitute for $V^7$ with which it shares all its constituent notes.*

(3) As the chord of $G^{(7)}$ before C sets up a dominant thrust, so $D^{(7)}$ before $G$, or $C^{(7)}$ before $F$, or $E^{(7)}$ before $A$, do the same. They all stand for a dominant relationship to their tonics; they are all ‘$V^{7}$’s of the following chord.

‘Ach Gott und Herr’, Ex. 2h, now clearly owes a remarkable amount of its harmonic impetus to the thrust of dominant relationships, accepting that viib is a ‘dominant substitute’ (e.g. $b2^{b}$, $b3^{b}$) and that tonics towards which dominants relate may change temporarily throughout the chorale.

Now play it, sing through each voice part, assemble the sounds mentally or, at the keyboard, physically. Finally relate the chord analysis below the music to the actual sounds you hear.

2.10 PROLONGING DOMINANTS

In Ex. 2g, both dominant and tonic chords were prolonged by broken chord figuration. In chorales such as Ex. 2h, there is no prolonging at all—virtually all chords are at most a crotchet long. The prolonging of a single harmony is, though a vital part of a composer’s craft, and is among the techniques needed for aural, visual and imitative analysis.

A particularly fruitful area for finding examples of more extended prolongation is in the dominant preparation leading into a recapitulation in sonata form movements. One of many such among the Mozart piano sonatas is no more than a chromatic scale between dominant notes:

Ex. 2i  Mozart: K283, last movement, bb168–72

*This is dealt with in more detail in Chapter 10. For now it will be best to accept viib as a version of $V^7$, waiting for proof until the later chapter.
In contrast, the rondo finale of K309 builds up a vast $V^7$ over no less than eight bars before the first return of the Rondo theme:

Ex. 2j  Mozart: K309, Rondo, bb85–93

\[\text{[Allegretto grazioso]}\]

Notice that this begins as a simple $V$: the addition of the seventh is delayed until the third bar, helping to create a sense of increasing tension as the composing out of the chord goes on.

2.11  Mental hearing and analysis exercises

2.11.1  Examine the chorale ‘Sei Lob und Ehr’ (R248), Ex. 2k. Count the number of $I \rightarrow V^{(m)}$ and $V^{(7)}$ (or viib) $\rightarrow I$ progressions. As all but one chord (which?) in the first phrase is made up of these, on $G$ and on $C$, memorise it and write it out. (Ignore $*$s and $\dagger$s, which relate to further analysis of this chorale in Chapter 9.)

2.11.2  Analyse bb1–20 of *Die schöne Müllerin* no. IV ‘Danksagung und den Bach’, Ex. 2l. In b2, the right-hand E is a non-harmony note, an appoggiatura. In b8 miss out the middle two quavers, which introduce harmonic devices to be dealt with later. In bb11–14, $V^7 \rightarrow I$ progressions are centred on chords other than $G$, the key of the piece.

Notice particularly: wherever a leading note is sounded, its next function is to rise, e.g. the left-hand $F\#$ in b1 clearly resolves up to the $G$ on the strong first beat of b2; wherever a seventh appears, it too resolves as soon as a change of harmony allows, e.g. in b2, two Cs introduce a tension which is released by the fall to $B$ in b3.

After analysing and playing the song, sit away from an instrument and read through it. Aim first to hear the voice part; sing or hum it. Then add to it the bass notes on strong beats, before identifying first the vertical harmonic quality of each beat and secondly the horizontal spreading of this as the right-hand breaks the chords into semiquaver figuration.
Ex. 2k Bach: R248, "Sei Lob und Ehr"

Ex. 21 Schubert: "Danksagung an den Bach", *Die schöne Müllerin* no. IV
2.12 Supplementary mental hearing and analysis exercises

All of the following contain enough I $\rightarrow$ V and V($^7$) $\rightarrow$ I progressions to provide suitable material for detecting these two chords and analysing how they are used, and for writing out a few progressions after memorising them. Play some of them first, on piano or recording, and then read them silently. Then try silent reading first, and check on your accuracy by playing. Use your voice freely, singing or humming, so that your ear can grasp at actual sound.

2.12.1 Bach chorale harmonisations:
- Es ist das Heil (R4)
- Erscheinen ist der herrliche Tag (R17)
- Zeuch ein zu deinen Toren (R23)

2.12.2 Mozart piano sonatas:
- K284 in D, second movement, Rondeau en Polonaise, bb1–16, in which all but four chords (which?) are either I or V($^7$), though they are, in places, lavishly decorated.
- K280 in F, first movement, bb 1–26. In bb 18–22, the first broken chord of each bar is a dominant, but with no root and a ninth added. So b18 is the chord of G major: the root, G, is missing;
the third, B♭ rises because it is a leading note;
the fifth, D, probably rises to E;
the seventh, F in the bass, falls as is normal;
the additional minor ninth, A♭, falls to G.*

When identifying such temporary dominant-functioning chords, a visual aid will often be the raising of a leading note—B♭ here in b18, A in b19 (does not need altering as it does not conflict with the current key signature), G♯ in b20, F♯ in b21 and E♭ in b22.

2.13 Imitative exercises
2.13.1 Using your analysis of 'Danksagung an den Bach' (2.11.2 above) as a model, write eight bars of piano music based only on I and V\(^7\), beginning as follows:

Ex. 2m

2.13.2 Add parts for alto, tenor and bass to the first four bars of the chorale 'Von Gott will ich nicht lassen', Ex 2n. The 'fundamental bass' shows suitable strongly directional V and I chords, focused on various temporary centres, a minor, G major, e minor, F major, G major, and finally a minor again. Write first a bass part, perhaps all in crotchets to begin with, by selecting the root or third of each chord—use only root position and first inversion chords. At each of the two V → I cadences ending a phrase, the chords will be in root position—Bach almost invariably ends phrases with this secure confirmation of safe arrival after the harmonic adventures during the course of the phrase.

In many cases, the inner parts will direct themselves in a coherent contrapuntal flow: all the thirds of 'V's, major ones at least, will probably rise—they function as leading notes of the following 'I'. Any sevenths added to dominants will fall to the third of the following I chord.

Chapter 9 deals more fully with the analysis and writing of strongly directional and fluent parts in Bach chorale harmonisations. For now, concentrate on achieving strong directional harmony, even if it lacks the quaver flow of Bach's original.

*Additions beyond sevenths to chords are considered further in Chapter 11.
Ex. 2n ‘Von Gott will ich nicht lassen’

For comparison with your own working, now look at Bach’s original, which is R332.

2.13.3 Look back at Exs. 2i and 2j, prolonged dominants in Mozart’s piano sonatas, or any other music you have available.

(1) Memorise them (or any others you may find in whatever other music you choose), and then write them out.

(2) Write some more of your own invention.

2.14 Supplementary imitative exercises

2.14.1 Write out the vocal line of ‘Die liebe Farbe’, no. XVI of Die schöne Müllerin, to b13. Then, after examining Schubert’s piano texture and figuration (note the repeated F# throughout), write your own accompaniment. Note that, in b10, the mode changes from b minor to B major.

2.14.2 Look at the kinds of figuration which Mozart uses to create variations on a theme (K284, last movement; K547a, last movement; K331, first movement). Then write a theme and a few variations upon it, using only I and V(7). Consider carefully, and analyse, the pace and rhythm of harmonies as they succeed each other: they are more likely to change over a bar line or a half-bar division than irregularly, or from a strong beat to a weak one. (If you doubt the validity of restricting yourself to two chords, hear a recording and read the score of the trio of the second minuet in the Serenade, K361. This uses only I and V7 for 24 bars, 48 bars with its repeats.)
SUMMARY OF CHAPTER 2

(1) The progression which, in root position, makes a bass leap of a perfect fourth up or a perfect fifth down is the strongest to be found in tonal music: \( V \rightarrow I \) or \( i \).

(2) Associated with the bass leap are

(a) a major third of \( V \), the 'leading' note, which asks to rise to the tonic note;
(b) often, a minor seventh of \( V \) which asks to fall to the third of \( I/i \).

(3) Such progressions in root position are by far the most common endings to phrases, sections and movements and are called perfect cadences.

(4) Such progressions in root position and first inversion (and in other inversions provided a seventh is included in the \( V \), dominant, chord) together with the reverse step of \( I/i \rightarrow V^\circ \), are the most frequently occurring in all tonal music.

(5) Chords are often composed out over a long time-span: the undecorated brevity of a crotchet or quaver harmony in a hymn or chorale harmonisation is the exception rather than the rule.
CHAPTER 3

Interlude I: The Major–Minor Misapprehension

3.1 We can easily be led to believe that major and minor are very different from each other. Books of scales and arpeggios, studied assiduously by instrumentalists and required for examinations, set out ‘major’ on one page, ‘minor’ on another. Works are described, verbally and in print, as being in given modes as well as keys. In a sense this is misleading to a student of harmony: it suggests a degree of restraint which does not exist.

On the largest scale of a whole work, changes of mode may be frequent and, at times, extensive. Beethoven’s Fifth Symphony actually contains more music in C major than in C minor. Although the C minor opening is an essential preparation for the C major of the Finale, it might be better considered as a work ‘on C’ rather than as the ‘symphony in C minor’ which is its usual description.

In the reverse direction goes Mendelssohn’s ‘Italian’ Symphony—its A major opening turns to A minor for the final ‘Saltarello’—a symphony ‘on, and around, both modes of A’?

In a sense, this is simply a semantic argument: the music remains totally unchanged by whatever words we use to describe it. Descriptions of mode, though, do tend to restrict thinking and imagination in the local, rather than general, analysis and imitative creation of music.

3.2 A single chord may be liberated from the seeming restraint of key signature by the ‘borrowing’ of notes from the other mode.

3.2.1 I (i.e. the major tonic) may become i (the minor tonic) and i become I. Because I/i is at the centre of the tonal system, a sudden change will often create surprise. It belongs frequently to particularly dramatic moments in song, or in song-like cantabile instrumental lines. So the stream is beloved (I → V’) but also obstinately silent (i → V’) in ‘Der Neugierige’, no. VI of Die schöne Müllerin, at bb23–26.