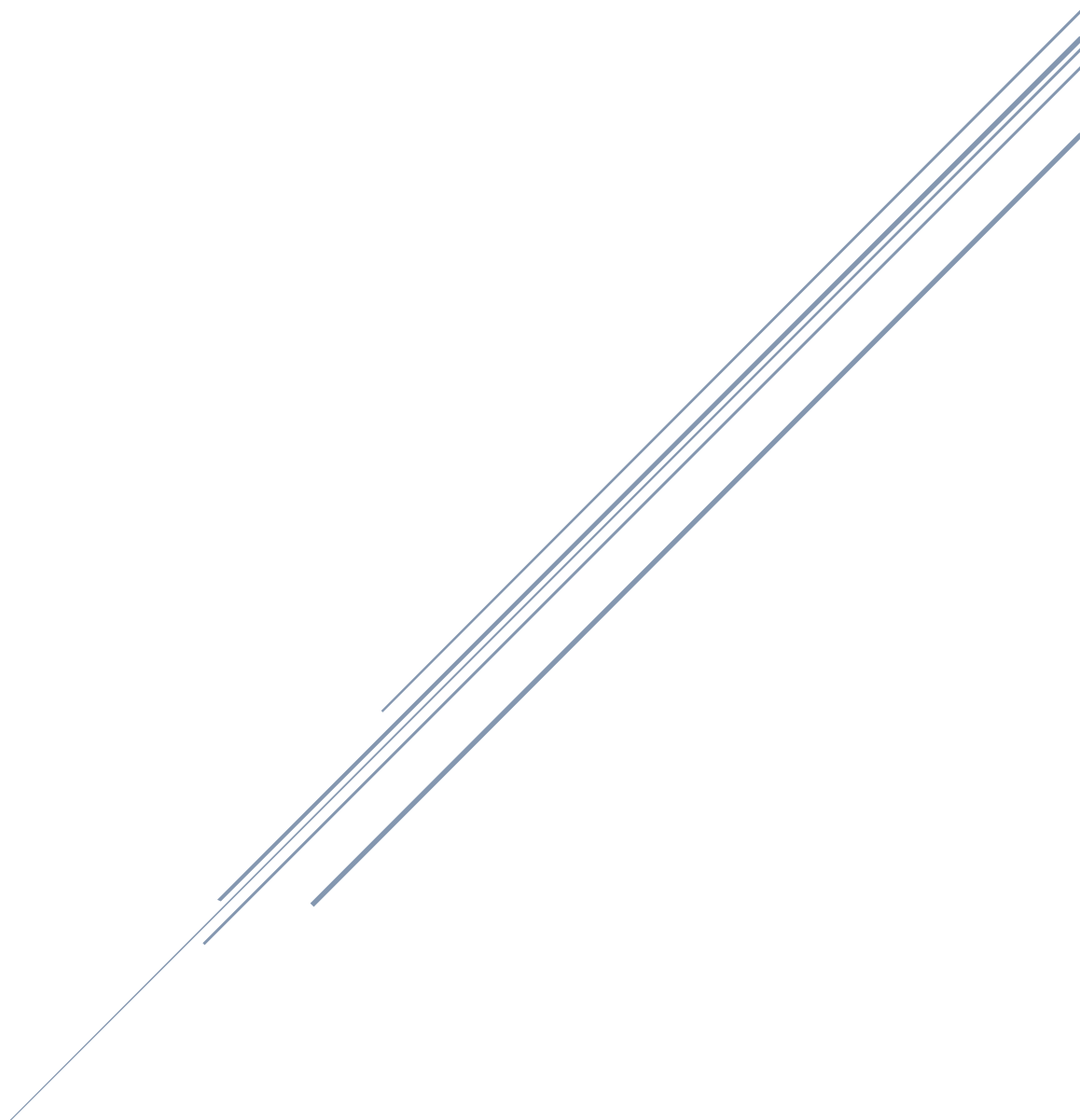# KEYBOARD HARMONY

A New Schematic Approach

By Samuel Lord Kalcheim

In memory of Easley Blackwood

Preface

To learn tonal harmony at the keyboard is to learn harmony as the great composers of the tonal tradition learned it: not as something abstract and academic, but rather, something embodied, and like a language, something to be assimilated and spoken fluently. By contrast, the standard methods of teaching undergraduate tonal harmony can be strangely divorced from actual music-making. Focused as they are on written exercises in four-part voice-leading based on rules," as well as harmonic analysis, they can too often discourage students from considering the *sound* of music at all.

There are other trends of course. Textbooks and exercises in continuo playing have proven a vital supplement for the more advanced or dedicated student to standard methods of "written" theory. The study of *Galant schemata* — harmonic patterns of the Galant/early Classical style, usually presented in two voices and with various nicknames ("Prinner," "Romanesca," "Monte," etc.) — and *partimenti* — unfigured bass exercises forming the backbone of Neapolitan-school Galant keyboard harmony education — present an attractive alternative to the norm. Yet while there are informal theory pedagogies based on *schemata* and *partimenti*, I have not seen these presented in sufficient detail and compelling enough order to form a truly comprehensive harmony pedagogy. Modern theory's descriptions of tonal harmony, roman numeral analysis, and simple concepts such as "pre-dominant," "dominant," "secondary dominant," and "pivot chord" do still have great use, as do basic rules of voice-leading. This book is therefore an attempt to take the spirit of schemata — that is, less emphasis on rules of voice leading, on "what not to do," or on behavior of individual chords, and more emphasis on harmonic *patterns* and their most common and useful voicings, "what to do," in short — and apply it to the subjects of a traditional harmony curriculum.

The harmony to be learned here, as "four-voice," keyboard-style harmony, has much kinship with the continuo-playing tradition. But while continuo-playing pedagogy aims at learning a kind of accompaniment, this book is concerned less with speed and fluency at reading figured basses while playing in an ensemble than with the ability to play a kind of simplified version of the most common and useful common-practice tonal progressions from memory, especially those related to the Galant and Classical style. In this approach, the melody (soprano) and bass lines of the progressions are paramount. The figured basses to be solved by the student and then learned with fluency are meant primarily to reinforce harmonic patterns already assimilated through exercises in playing these patterns in all keys. What sort of knowledge does this result in? One could say, rather than guiding the student towards speed in continuo playing, this kind of keyboard harmony guides them towards a strong, embodied knowledge of tonal harmonic patterns and enables them to fit these together with ease, whether in composition or, especially, in improvisation. Just as a jazz pianist is equipped with a dizzying variety of harmonic and melodic "moves" to be strung together in various idiomatic orders, so I can hope that a student of keyboard harmony as taught in this book may gain some ability to fit together idiomatic classical tonal progressions.

Indeed, being myself a composer well versed in tonal harmony, and not a stranger to basic keyboard improvisation, I chose the progressions in this book as the sorts of progressions or "moves" I have learned over the years (in a more haphazard way) to fit together in my improvising, as well as the kinds of progressions that can be seen clearly in the simplified background, as it were, of standard repertoire — and indeed of my own common-practice music.

I also would be remiss in not mentioning perhaps the greatest influence on this textbook: the French keyboard harmony tradition as taught by Nadia Boulanger. Boulanger herself taught schemata-like drills of chord progressions to be learned in all keys. Beyond this, the main text used she used to teach keyboard harmony was the set of basses by Paul Vidal. I first encountered this tradition through my undergraduate mentor Easley Blackwood's own textbook *A Practical Musician's Guide*

to Tonal Harmony. Blackwood had served as Boulanger's assistant and personally copied out the Vidal basses by hand—in fact, these hand copies are still the most widely used and distributed version of the basses and are used to this day at the European American Musical Institute in Paris. Blackwood's book, while impressive for its rigor and its emphasis on discreet progressions to be learned rather than simple rules of voice leading, was oddly enough a *written* rather than *keyboard* harmony textbook. The book's idiosyncrasies, and most especially its large and strict group of voice leading rules, were rather different from the sort of approach I ended up finding most effective. On the other hand, Blackwood's slightly unusual order of topics largely inspired my own ordering here. And indeed, it should be noted that some nominally "advanced" topics will show up quite early in the book—the Neapolitan chord and first discussion of modulation appear in Chapter 2, for instance.

I should also mention my own summer at EAMA, where Boulanger's method of keyboard harmony is still taught. There the Vidal Basses are still used, and certain important progressions/harmonic schemes are drilled in all keys. This tradition of keyboard harmony is really quite effective, though the summer course is perhaps too short for optimal impact. Unfortunately, the way this tradition (and Blackwood as well) very abstractly starts students with root position triads, then first inversion, then second inversion, then seven chords, etc., leads to a kind of "academic" musical style in the basses. This kind of abstract or academic style often ends up relying on progressions that do not appear much if at all in real tonal music, and so one feels that while learning voice leading principles quite well, the student does not absorb a sufficient number of useful harmonic *idioms*. For this reason, I do not start with root-position triads, then first inversion, etc., but rather, I introduce what seem to me the most common and basic progressions first and build from there. One will, for instance, see the first inversion ii chord (ii6) presented immediately, as it is a ubiquitous, unavoidable pre-dominant chord. The cadential 6/4 similarly appears in chapter 1, as something the student should learn with fluency right away. Without such chords as these at my disposal, I would be forced to give students very abstract and unidiomatic-sounding musical progressions to play and basses to solve. The realized figured basses should especially sound "something like music," if slightly melodically restricted and abstract. When solved correctly and learned, they should sound like, I hope, musically satisfying pedagogical pieces.

One final note: As a keyboard harmony textbook, unlike the standard theory textbooks used in undergraduate courses, this work does not give musical examples from the repertoire. These are of course extremely valuable, and in teaching undergraduate theory from this book I always supplement it with musical examples, and I make sure to assign Roman numeral analysis of musical excerpts. This book will likewise contain nothing specifically about musical form. Deep score study is of course one of the most valuable ways of learning how music works, not simply in theory, but in practice, and it is my hope that students who learn from this book will be able to apply the insights and skills gained towards score study and analysis.

Whom is this book for? What prior knowledge does it assume?

This book is for students with some basic theory and keyboard background. It can be applied to university-level courses, but only if it follows a study of music and harmony fundamentals up through the basics of Roman numeral analysis.

Any student using this book, whether alone, with a teacher, or in a course, should know the basics of major and minor scales, key signatures, intervals, etc. Beyond this, the student must know what triads are, what makes them major, minor, diminished, etc., and ideally should be able to review and know by heart the triad quality of the triads for each scale degree of the major scale. A basic knowledge of seventh chord quality is also assumed. The student should furthermore have basic familiarity with Roman numeral analysis, as the use of Roman numerals to label chords is taken for granted here. The student should moreover know the basics of figured bass notation, that is, what different figures over given bass notes imply as to the intended harmony. As a book meant to be studied at the keyboard, it assumes some ability to play basic hymn-type pieces on the keyboard.

The primary audience for this book is twofold: first, composers, conductors, theorists, and any musicians who, perhaps dissatisfied with what they have learned of harmony thus far, want to learn it in a much deeper, more thorough, more embodied way, and in so doing, become "fluent practitioners"; second, professional or amateur pianists with some theory background—for them, the keyboard aspect of this book will be quite accessible, forming an ideal way to learn or relearn tonal harmony, and serving as a bridge to composition and improvisation.

This book can also be used in a standard "written" theory class, ideally in the context of a keyboard lab where every student sits in front of a keyboard in every class. However, sufficient background in keyboard or theory fundamentals, or sufficient willingness or dedication to put in the hard work to learn harmony so thoroughly, cannot always be assumed in a standard undergraduate context. I myself have used this book in adapted ways in teaching Theory II and III at William Paterson University. In this case, the schematic emphasis on patterns over voice-leading rules still proved highly effective. Instead of requiring students to play exercises and basses, I would ask them to solve the basses in writing and, after working with them to get the correct solution, ask them to sing the soprano line while looking only at the bass as I accompanied them on the lower voices. This forced students to learn some aspect of the bass solutions in a more musical way than by simply writing. I also required students in Theory III (who had taken a year of keyboard) to learn five of the fundamental exercises in the book in select keys. In Theory II, I required students to either learn two fundamental exercises from Ch. 1 at the keyboard in two not-C keys or learn to sing through each voice of these progressions by memory, both in solfege and letter names, for a select number of keys. If needed in the context of a sufficiently large class, the basses could be relegated to written exercises, but students should be at the very least expected to sing progressions in class, both on solfege and, transposing them to various keys, on letter names.

<u>Introduction to Keyboard Style Voicing</u>

Keyboard harmony is of course, harmony taught at and applied to the keyboard. Beyond that, it is a type of more general four-voice or four-part harmony and voice-leading approaches, one that strictly employs "keyboard-style" voicings. For the sake of simplicity and fluency, and reflecting the figured bass or continuo playing that this approach derives from, in keyboard-style voice leading, the left hand is devoted entirely to the playing of the bass voice. The right hand thus "fills in" the upper voices of the harmony. Generally, the right hand will have three notes/voices at a time (soprano, alto, and tenor), but occasionally it will drop to two. Because of the constraints of keyboard-style voice leading, it will often stray from some of the smoother chorale-style paradigms. Consider, for instance, the voicing in each of I-V-I with a rising 1^-2^-3^ soprano (*As is customary, I will use Arabic numerals with the ^ sign to indicate melodic scale degrees, in contrast to Roman numerals to indicate chords)*. While neither of these is "smoother" per se, the chorale voicing is able to maintain the common tone 5^ in the alto. In the keyboard voicing, you will also notice that from the first to the second chord, all voices move in the same direction—something which in chorale style is generally avoided.

Note that even in keyboard style notation and with keyboard voicings, I will still use the terms "soprano," "alto," "tenor," and "bass" to indicate the four voices of the harmony, top to bottom.

Another important concept to apply to the learning of keyboard harmony progressions and figured basses is the distinction between closed- and open-position voicings of chords. The concept of "voicing" should be clearly distinguished from that of chord "inversion," which only concerns which chord tone is in the bass. A "voicing," on the other hand, describes the distinct arrangement of the upper voices. For a voicing to be in "closed position," the upper voices must be on immediately contiguous chord tones, meaning that there are *no missing chord tones* between the upper voices. All other voicings constitute "open position." As might be inferred, keyboard-style harmony relies much more heavily on closed position voicings than does chorale style.

Filling in the upper voices of a figured bass note is especially simple when using closed-position voicings, and such voicings are easy to recall. One need only *remember the soprano line*, and then one can simply fill in the two contiguous chord tones below it. For instance, below are the outer voices of the progression I-ii6-V-I, and the full keyboard style realization. If one simply remembers the

outer voices, as each chord can be presented in closed position, the middle voices are easily filled in below the soprano:

Instructions for Using This Textbook

This textbook consists essentially of various keyboard-style passages to be played by the student, taking the form of *Examples*, **Exercises**, and **Figured Basses**. *Examples* can be played simply or transposed for extra challenge. These present chord progressions and voicings to be reinforced in exercises and basses. *Exercises* at times present and at times reinforce and contextualize progressions given in the *Examples*. These *Exercises* are fundamental drills that should be **learned transposed in all keys**—all major keys if major, all minor if minor. Some exercises are optional and are marked as such. After Ch. 2, major key exercises labeled "works in minor" can also be played in all or select minor keys, using pitches from the harmonic minor scale. **Basses** can be "solved," i.e., performed with the upper voices appropriately added, in consultation with instructor. These **Basses** will in general present and further recombine progressions learned in the *Examples* and *Exercises.* Solutions for these, with ample explanations, are given in Appendix 1. The basses should be learned to be played with fluency while looking simply at the figured bass and not at the solution. These also can be practiced transposed for an additional challenge.

Basic Method for Working Out Basses at the Keyboard

Figures for the basses follow fairly common continuo-playing conventions: lack of any figure implies a simple root position, 5/3 triad. A simple sharp or flat indicates that the 3rd of the chord is altered accordingly. The bass notes plus figures will be entirely sufficient to suggest the chords to be filled in/played. Some examples of standard figured bass notation and their implications are given below:

In general, figures indicate simply the intervals to be added above the bass note, but the specific harmonic formulas indicated by the basses and their figures should be clear from the material covered in each chapter.

Basses can generally be solved by simply combining progressions presented in each chapter—usually those that are drilled in the *Exercises,* though sometimes additional progressions from the *Examples* will be used. The general approach is thus not to move from one chord to the next and simply apply "voice-leading rules." This is highly inefficient, not conducive to fluency, and not apt

to lead to the most idiomatic, most musical solution in every case. Rather, the student should seek to identify discreet progressions learned so far (these tend to be three to five chords long) and then seek to apply the correct or most context-appropriate voicings of those progressions. Many progressions will have only one correct voicing. The discreet progressions will often overlap—for instance, the final chord of one will serve as the first chord of the next. In other instances, progressions will be presented contiguously, simply one before the other. In those cases, following the standard voicings of each will inevitably lead to a correct solution. In cases where the best way to connect between progressions learned is unclear at first, there is usually a very smooth way of connecting the two: general voice leading rules/principles from Appendix 2 can be used, but this will be rarely necessary. In chapters where every possible voicing of relevant progressions cannot be covered, some general principles of handling such progressions will be given and these can be applied in the basses.

One final note: in the basses one will sometimes see a chord repeated, especially I. This should cue the student to take the opportunity to "revoice" the chord—selecting a different voicing from that used previously. Voice-leading errors cannot be made between two voicings of the same chord, so such revoicing can be done freely where it appears.

Chapter 1: Fundamental Progressions and Cadences in Major

We begin with simple alternations of I and V (tonic and dominant) and I and IV (tonic and subdominant). These are our first, simplest harmonic building blocks. Moving from I to V has a more tense and directional sense, as if of moving "uphill," while moving from I to IV has more relaxed sense, moving "downhill."

I–V-I

Example 1.1: I-V-I Simplest Voicing:

Note: In this and all alternations of I and V, the bass may jump in either direction, moving by fourth or fifth.

Example 1.2: Further Voicings:

Note: The first of these voicings is less common. Note that the final voicing involves a leading tone leaping down from 7^ to 5^. This is a "covered" leading tone, as the soprano voice resolves to above it to 1^.

Exercise 1.1: Voicings of I-V-I

In the basses, when you see a I-V-I progression with various possible solutions, it is often best use an arrangement that changes the voicing of the I chord, that is with soprano 3^-2^-1^ or 1^-2^-3 (third and fourth measures of the above exercise) as this results in a more melodic soprano voice.

I–IV-I

Exercise 1.2: Voicings of I-IV-I

I   IV   I   I   IV   I   I   IV   I

Note: As with I and V, alternating between I and IV, the bass can leap upward or downward, though moving up a fourth from 1^ to 4^ is somewhat more common.

Perfect Authentic Cadences (PACs)

Defined in a strictly harmonic sense, a *Perfect Authentic Cadence* (PAC) must include a pre-dominant leading to a root position dominant (V) and thence to root position tonic (I). The final I chord must additionally have 1^ in the soprano. The concept of "cadence" in general relates more to phrase structure than to harmony as such, but it will be further touched on later in this book.

Example 1.3: Most Common PAC Formulas:

IV   V   I   ii⁶   V   I

As shown above, ii6 can be seen as functioning exactly as IV, and has exactly the same notes except that the soprano 1^ of IV is raised to 2^ in ii6. As a result, the standard voicing of ii6 involves a doubled 3rd. ii6 is an extremely common and useful predominant and will often be favored over IV, as it was by Classical period composers, for its slightly more refined and complex sonority. IV can also lead to ii, as seen below (the reverse of this is very rare). Note that root position ii will not follow root position I.

Example 1.4: Less Common PAC:

IV   ii   V   I

Exercise 1.3: Perfect Authentic Cadences

I   IV   V   I   I   ii⁶   V   I   I   IV   ii   V   I

Due to having 2^ in the soprano, ii6 can easily follow a voicing of I with 3^ in the soprano, as shown below:

Example 1.5: I-ii6-V-I, with Different Voicing of I

I   ii⁶   V   I

I-vi; Descending Thirds

"Descending thirds" progressions typically move downward between root position triads a 3ʳᵈ apart. Voice-leading between two chords a third apart is quite simple and smooth, as there are two common tones. The exception to this is of course when ii6 follows vi—there ii6 serves again as a substitute for IV.

Example 1.6: Descending Thirds Progressions

I   vi   IV   I   vi   ii⁶   I   vi   IV   ii

Exercise 1.4: Descending Thirds with Cadential Context

I   vi   ii⁶   V   I   vi   IV   ii   V   I

Bass no. 1

6

6
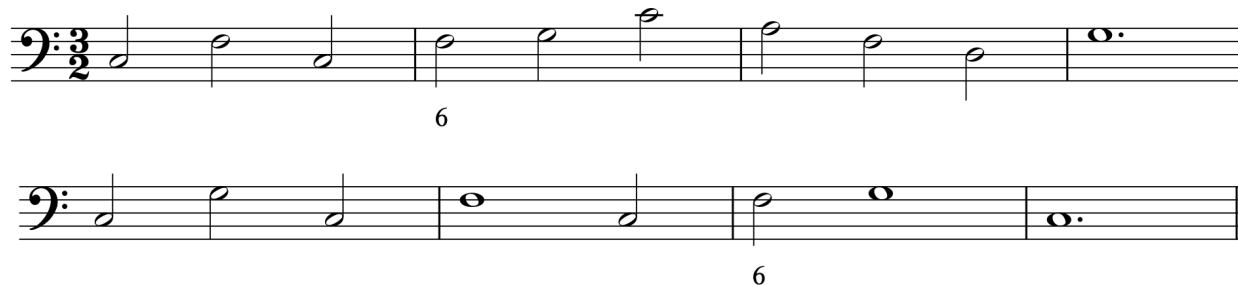
V-vi and "Deceptive" Motion

Two simple, beautiful contexts for the vi chord are shown below; these progressions will always be found in the voicings shown below. The description "Opening" is applied here to I-V-vi, given its prevalence at the very start of phrases or themes.

Example 1.7: I-V-vi Opening Progression; Same Progression in Reverse:

I   V   vi   vi   V   I

"Deceptive motion" is motion from V to vi instead of V to I, the vi "deceiving" the listener's expectations. There are two common resolutions of V to vi. The first of the two shown below (Example 1.8) is more common, and is the first instance where an open-position voicing is required. This first voicing comes about from the following voice-leading considerations: the soprano $7\hat{}$ (the leading tone) must resolve to $1\hat{}$, even in this "deceptive" context. The middle voices, on the other hand, cannot move upwards without creating parallel fifths and octaves (or without both triads moving entirely parallel), and so they must move downwards. The resulting spread-out right hand spacing, with the doubled 3rd ($1\hat{}$) played as an octave, is important enough that it will be refereed to simply as the "deceptive cadence voicing." The second voicing can by contrast be seen in the I-V-vi progression of Example 1.7—here we can stick to closed-position voicings, as $7\hat{}$ can resolve down to $5\hat{}$ given the resolution of $2\hat{}$ to $1\hat{}$ in the soprano, the "covered leading tone." This voicing, while less common, will occasionally be called for in solving the basses.

Example 1.8: Deceptive Resolutions:

V   vi   V   vi

A deceptive resolution becomes a "deceptive cadence" simply through the addition of a pre-dominant before V. Any PAC can be made into a deceptive cadence simply by substituting vi for I and applying the correct voicing.

Example 1.9: Deceptive Cadence

$$ \text{ii}^6 \qquad \text{V} \qquad \text{vi} $$

Note: Deceptive cadences can always be directly followed by the standard voicings of PACs. The middle voices simply "snap back upward" to their normal locations in a cadential progression. This can be seen in the last two measures of Exercise 1.5.

Exercise 1.5: Various Uses of vi

I   V   vi   vi   V   I   ii^6 V   vi   IV   V   I

Bass no. 2

6   5/3   (hold chord in R.H.)

Alternative Voicings to PACs and Descending Thirds

After one has become comfortable with the progressions thus far, it is worth noting the following alternative voicings of the descending-thirds progressions and Perfect Authentic Cadences. These will be used much less often than those learned earlier, especially in their simple unembellished form, but they will prove useful at times. Note that these progressions both lead to a V with 2^ in the soprano, and this will be resolved to I as shown at the end of the exercise, with a covered leading tone.

Example 1.10: An Alternative Voicing of Descending-Thirds Progressions and PACs

Bass no. 3

The Cadential 6/4

The "Cadential 6/4" is by the far the most commonly occurring second-inversion triad. It is so common that it must be introduced now in order to give the student idiomatic progressions and basses to solve. The labeling of the chord as a V6/4, followed by V5/3 (with the repeated V Roman numeral omitted), is a quirk of music theory. The chord clearly has the notes of I and not V! But theorists tend to call it V6/4 as it does not function as a temporary moment of I, or any kind of resolution to I, but rather as a kind of trick of voice-leading that delays or embellishes V. This aspect of embellishment of V earns it the label V6/4. Of course, it is also simply called the "Cadential 6/4," although the name can also refer to the entire 6/4 to 5/3 sequence.

Example 1.11: The Cadential 6/4

Note: The bass will not always drop an octave—it can just as simply hold in place. The octave drop is of course, highly idiomatic. Also note, the third of these resolutions above is less common, as it cannot be used in a PAC.

In the following exercise we can see better why the cadential 6/4 is so useful and effective: in delaying V, it also smooths out the connection between pre-dominant and dominant. The cadential 6/4 can extend any of the cadential formulas seen thus far and can thus follow various voicings of IV and ii6 as well as ii. Exercise 1.6a drills two especially felicitous contexts of the cadential 6/4, extending one IV-V-I and one ii6-V-I voicing. In both cases, the V6/4 fills in what without it would have involved a soprano jumping down by third, resulting instead in elegant downward motion by step.

Exercise 1.6a: Two Cadential 6/4 Voicings in Context

I   IV V_4^6 $_3^5$ I ii^6 V_4^6 $_3^5$ I

Exercise 1.6b presents two further voicings of the cadential 6/4, again "filling in" cadential progressions that otherwise would have involved a jump of a third in the soprano.

Exercise 1.6b: Two Further Contexts for Cadential 6/4

I ii^6 V_4^6 $_3^5$ I   IV   ii V_4^6 $_3^5$ I

The voicing below, a simple extension of the most common I-IV-V-I voicing, was left out of the exercises, as the soprano is somewhat boring. One can see that the cadential 6/4 is unnecessary, as this standard voicing of IV-V-I is already stepwise, and needs no "filling in."

Example 1.12b: Further (Somewhat Boring) Cadential 6/4

I   IV V_4^6 $_3^5$ I

Bass no. 4