COMMON-PRACTICE TONALITY: A Handbook for Composition and Analysis

T A B L E o f C O N T E N T S

- Introduction
- Sound and Its Notation
- Pitch Intervals, Consonance, and Dissonance
- Tonality
- Pulse, Rhythm, and Meter
- The Basics of 4-Part Writing
- Basic Harmonic Grammar
- Contrapuntal Progressions and Voice-Leading Harmonies
- Scale-Degree Triads in Context
- The Minor Mode
- Melodic Figuration
- Rhythmic Figuration
- Diatonic Seventh Chords
- Harmonic Tonicization and Modulation
- Harmonizing a Melody
- Motive, Phrase, and Melody
- Diatonic Sequences
- Modal Mixture
- Chromatic Voice Leading to V
- Other Chromatic Voice-Leading Chords
- Towards Analysis
- Appendices

INTRODUCTION

- What is Common Practice and what is "Tonal"?
- Why "Composition" and Not "Theory"?
- Why Study Common-Practice Tonality in the First Place?

[top]

SOUND AND ITS NOTATION

- What is sound, pitch, noise, and timbre?
- Distinguishing One Sound from Another
- Pitch Notation
  - The Note
  - THE STAFF
  - PITCH INTERVALS
- The Hamonic Series, Pitch Class & Octave Perception
- THE KEYBOARD
  - Half Steps and Whole Steps
  - The White Keys

    - The Black Keys.
    - Enharmonic Equivalence.
- CLEFS
- The Horizontal and the Vertical
- Timbral Notation
    - The Score
    - Dynamics
    - Articulation
- Summary

[top]

PITCH INTERVAL, CONSONANCE, AND DISSONANCE

- Measurement of Pitch Intervals
    - The Ordinal or Diatonic Size
    - The Absolute Size
    - THE DIATONIC QUALITIES
    - THE CHROMATIC QUALITIES
    - SIMPLE AND COMPOUND INTERVALS
- Inverting Pitch Intervals
- The Acoustical Foundations of Consonance and Dissonance
- CONSONANCE AND DISSONANCE
    - THE PERFECT CONSONANCES
    - THE IMPERFECT CONSONANCES
    - THE TRIAD
- DISSONANCE AND CONSONANCE
- ENHARMONIC EQUIVALENCE
- DISSONANCE RELATED TO THE TRIAD
    - DISSONANCE COMPELLED TO MOTION
    - THE PASSING NATURE OF DISSONANCE
- SUMMARY

[top]

PULSE RHYTHM & METER

- Rhythmic Notation

    - The Note Tree
    - The Rest Tree
    - Ties
    - Dotted Notes and Rests
    - Tuplets
- Rhythmic Organization
    - Patterning
    - The Pulse
    - Tempo
    - Meter
    - Accents
- Rhythm and Meter
- Metrical Notation
    - METER SIGNATURES
    - THE TYPES OF METER
        - SIMPLE METER
        - COMPOUND METERS
- RHYTHM, METER, AND TONALITY
    - Rhythm and Dissonance
    - PASSING AND NEIGHBORING NOTES
    - RHYTHMIC DISPLACEMENT
        - The Anticipation.
        - The Suspension.
- Phrase Structure
    - THE PERIOD
        - Antecedent.
        - Consequent.
    - THE SENTENCE
        - Statement.
        - Continuation.
        - Dissolution.
- SUMMARY

[top]

TONALITY

- COLLECTIONS, MODES, AND SCALES

    - Collections
    - Modes
    - Scales
- MAJOR KEYS
    - Key Signatures
    - Scale Degrees
        - PRINCIPAL SCALE DEGREES
        - DEPENDENT SCALE DEGREES
            - Passing Notes.
            - Neighboring Notes.
- SCALE DEGREES IN MELODIES
    - Unfolding.
    - Embellishing.
    - Consonant Support.
- ACTIVE INTERVALS
- SCALE DEGREE TRIADS
    - The Qualities of Scale Degree Triads
    - Inversions
    - Figured Bass
        - THE BASS
        - THE FIGURES
- MINOR SCALES
    - "Natural" Minor
    - "Harmonic" Minor
    - "Melodic" Minor
    - Affect of the Minor
- THE RELATIONSHIP BETWEEN MAJOR AND MINOR KEYS
    - The Relative Relation
    - The Parallel Relationship

[top]

THE BASICS OF FOUR-PART WRITING

- THE FOUR VOICES
    - Disposition of the Four Voices
    - Range of the Four Voices
- Rhythm

- CHORD CONSTRUCTION
  - Complete Triads
  - Spacing
    - OPEN POSITION
    - CLOSED POSITION
- Doubling
  - RULES FOR DOUBLING
    - Doubled Root.
    - Doubled Fifth.
    - Doubled Third.
  - ALTERNATIVES TO DOUBLING
    - Tripled Roots
    - Seventh Chord.
- Keyboard Style
- VOICE LEADING
  - Soprano and Bass
  - Function of the Individual Voice
  - CONJUNCT MOTION
    - Consonant Seconds.
    - Dissonant Seconds.
  - DISJUNCT MOTION
    - Consonant Leaps.
    - Dissonant Leaps.
    - Successive Leaps.
    - Approaching and Leaving Leaps.
    - Simultaneous Motion
  - PARALLEL MOTION
  - SIMILAR MOTION
  - OBLIQUE MOTION
  - CONTRARY MOTION
- FORBIDDEN PARALLEL MOTIONS
  - Forbidden Parallel Unisons.
  - Forbidden Parallel Octaves.
  - Forbidden Parallel Perfect Fifths.
  - Hidden Parallel Octaves.
- VOICE CROSSING AND OVERLAP
  - Voice Crossing.
  - Voice Overlap.
- General Guidelines for Composing Inner Voices
  - GENERAL VOICING GUIDELINES
  - GUIDELINES FOR COMPOSING THE INDIVIDUAL VOICE

- Summary

[top]

BASIC HARONIC GRAMMAR: 5/3 TECHNIQUE

- Composing-out: Unfolding and Prolongation
- Counterpoint
  - FIRST SPECIES
  - SECOND SPECIES
  - The Fifth Divider
    - THE UPPER FIFTH DIVIDER.
    - THE LOWER FIFTH DIVIDER
- FREE STYLE
- The Third Divider
  - THE UPPER THIRD DIVIDER
  - THE LOWER THIRD DIVIDER
- THE CADENCE
  - The Authentic Cadence
    - THE PERFECT AUTHENTIC CADENCE
    - THE IMPERFECT AUTHENTIC CADENCE
  - The Half Cadence
  - The Plagal Cadence
    - THE IMPERFECT PLAGAL CADENCE
    - THE PERFECT PLAGAL CADENCE
  - The Deceptive Cadence
- METRICAL CONSIDERATIONS
  - Bass Repetition
  - Chord Repetition
  - Common Exceptions
    - OPENING CHORD REPETITION
    - BASS REPETITION INTO A DISSONANCE
- Summary

[top]

Contrapuntal Progressions and Voice-Leading

- VOICE LEADING CONSIDERATIONS

- TECHNIQUE
- Bass Arpeggiation
- BASS ARPEGGIATION
- AS THIRD DIVIDER
- Passing s
- Neighbor 6s
- BASS NEIGHBOR NOTE
- INCOMPLETE NEIGHBOR NOTES
- TECHNIQUE
- Passing
- COMMON NOTE
- CADENTIAL
- THE DOMINANT SEVENTH (V7)
- Origin of the Seventh Chord
- Voice Leading and the Seventh Chord
- THE SEVENTH
- DOUBLING
- THE TRITONE
- Inversions of the V7
- VOICE LEADING
- DOUBLING
- V7 in the Cadence
- The V and vii6
- Non-cadential V7s
- THE CONTRAPUNTAL CADENCE

[top]

Scale-Degree Triads in Context

- The Tonic Triad (I)
  - I
    - UPPER FIFTH DIVIDER OF IV
    - LOWER FIFTH DIVIDER OF V
  - I
    - UPPER THIRD DIVIDER
    - LOWER NEIGHBOR TO BASS 4^

        - The Cadential "I6/4"
- The Subdominant Triad (IV)
    - IV 
    - IV 
    - IV  AS LOWER-THIRD DIVIDER
    - IV  AND V
    - IV  IN A DECEPTIVE PROGRESSION
    - iv  IN THE MINOR
    - IV 
- The Dominant and Dominant-seventh (V and V7)
    - V  and V 
    - V  and V 
    - V 
- The Supertonic Triad (ii)
    - ii 
    - ii  AS UPPER-FIFTH DIVIDER TO V
    - ii  AND I 
    - ii 
    - 5-6 TECHNIQUE
- The Mediant Triad (iii)
    - iii as Fifth Divider
    - iii as Third Divider
    - Neighboring and Passing iiis
- vi in the Major
    - vi AS UPPER FIFTH DIVIDER
    - vi AS LOWER THIRD DIVIDER
    - NEIGHBORING CHORD
    - DECEPTIVE SUBSTITUTE FOR I
- VI in the Minor
- The Leading Tone Triad (vii)
    - vii 
    - vii6 and the Contrapuntal Cadence

[top]

The Minor Mode

- ALTERED NOTES
  - Cross Relations
  - Seventh Scale Degree in the Minor
  - RAISED 7^
  - DIATONIC 7^
  - Augmented Second
  - Raised 6^
- The Linear Dissonance
  - DESCEND TO THE LEADING TONE
  - RESOLVE THE LEADING TONE
  - BALANCING CONJUNCT MOTION IN SOPRANO
- III: THE RELATIVE MAJOR
  - The Diminished ii
    - DIMINISHED ii
    - ROOT POSITION DIMINISHED ii
    - DIMINISHED ii-III
  - The Subtonic Triad
  - Tonicized III

[top]

Melodic Figuration

- CHORDAL SKIPS
  - General Function
  - Faulty Voice Leading that May Result
  - Correction for Faulty Parallels
  - Voice Exchange
- PASSING NOTES
  - Passing Notes and Parallel Fifths
  - PASSING NOTES AS CAUSE OF PARALLEL FIFTHS
  - PASSING NOTES AS CURE OF PARALLEL FIFTHS
  - Passing Notes and Other Forbidden Parallels
  - Passing Notes In the Minor
- NEIGHBORING NOTES
  - Neighboring Notes and Parallel Fifths
  - NEIGHBORING NOTES AS CAUSE OF PARALLEL FIFTHS
  - NEIGHBORING NOTES AS CURE FOR PARALLEL FIFTHS
  - Parallel Octaves and Unisons

- OTHER TYPES OF MELODIC FIGURATION
  - "Appoggiaturas"
  - "Escape Notes"
- CHROMATIC FIGURATION
  - Chromatic Lower Neighbor
  - Melodic Tonicization
    - TONICIZATION
    - MELODIC TONICIZATION OF V
    - LINEAR TONICIZATION OF IV

[top]

Rhythmic Figuration

- TIME SPANS
- THE SUSPENSION
- Elements of the Suspension
  - THE PREPARATION
  - THE SUSPENSION
  - THE RESOLUTION
  - Metrical Position of the Suspension
  - Doubling and the Suspension
  - The Suspension and Parallel Fifths
- The Bass Suspension
  - SUSPENDING THE BASS OF A
  - SUSPENDING THE BASS OF A
  - SUSPENSIONS AND FIGURED BASS
    - The 4-3 Suspension.
    - The 6-5 Suspension.
    - The 7-6 Suspension.
    - The 9-8 Suspension.
    - Figures and the Bass Suspension.
- The Double Suspension
- The Upward Resolving Suspension
- Variants of the Suspension

THE INDIRECT SUSPENSION

DECORATED RESOLUTION

- SUSPENDED P'S AND N'S

    - THE CONSONANT SUSPENSION
    - THE DISSONANT PREPARATION
- ANTICIPATIONS
    - Metrical Considerations
    - The Anticipation and Parallel 5ths
    - The Indirect Anticipation
- THE PEDAL POINT

[top]

Diatonic Seventh Chords

- SUPERTONIC AND SUBDOMINANT SEVENTH CHORD
    - Supertonic Seventh
    - Subdominant Seventh
- THE MEDIANT SEVENTH CHORDS
- THE SUBMEDIANT SEVENTH CHORD
- THE LEADING-TONE SEVENTH CHORDS
- THE TONIC SEVENTH CHORD
- RESOLUTION OF THE SEVENTH: VARIANTS
    - Transferred Resolution
    - The Decorated Resolution
    - The Delayed Resolution
- APPARENT SEVENTH CHORDS

[top]

Harmonic Tonicization and Modulation

- Applied Dominants
- APPLIED V
    - Structure of the Applied V.
    - Inversion and the Applied V.
    - Voice Leading and the Applied V.
    - The Cross Relation.
- APPLIED V7
    - Structure of the Applied V7.
    - Voice Leading and the Applied V7.
- Other Applied Chords
    - Applied vii and vii7

    - Structure of the Applied vii and vii7.
    - Voice leading and the Applied vii and vii7.
    - Inversions of the Applied vii and vii7.
- THE FULL DIMINISHED VII7
    - vii7 in the Major.
    - vii7 in the Minor.
- Triad Quality and Tonicization.
- Structure of the Applied vii7 in a Minor Tonicization.
- MODULATION
- General Considerations
- CLOSELY RELATED KEYS
- MODULATION AND THE LEADING-TONE TRIAD
- Modulatory Techniques
- ESTABLISHING THE NEW KEY AREA
- TYPES OF MODULATION
    - The Pivot Chord Modulation.
    - Modulation By Cross Relation.

Harmonizing a Melody

- MELODIC ANALYSIS
- ESTABLISHING THE BASS
    - Structure of the Bass
    - The Cadences
    - Voice Leading Connections
- COMPLETING THE BASS OF PHRASE TWO
- COMPLETING THE BASS OF PHRASE ONE
    - The Completed Bass
- BACH'S OWN VERSION
    - The Inner Voices
- INNER VOICES OF THE FIRST PHRASE
- INNER VOICES OF THE SECOND PHRASE
    - Other harmonizations

[top]

Chapter 15 -- Motive, Phrase and Melody

THE MOTIVE

The Basic Transformations

PITCH TRANSFORMATIONS

Transposition.

Retrogression.

Inversion.

RHYTHMIC TRANSFORMATIONS

Augmentation.

Diminution.

Expansion and Contraction of the Motive

PHRASE AND MELODIC TYPES

Period

THE ANTECEDENT

THE CONSEQUENT

Sentence

STATEMENT AND CONTINUATION

The Statement.

The Continuation.

DISSOLUTION

The Dramatic Prolongation of V.

The Dissolution of the Motive.

Combined Types

THE DOUBLE PERIOD

THE DOUBLE SENTENCE

[top]

DIATONIC SEQUENCES

- STRUCTURE AND FUNCTION OF THE SEQUENCE
  - The Sequential Unit
  - The Sequential Progression
- DIATONIC SEQUENCES
  - Sequential Motion by Step
- DESCENDING S
- DESCENDING FIFTHS
- ASCENDING SEQUENCES
  - Ascending Fifths.
  - Ascending 5-6.
  - Sequential Motion by Thirds
- DESCENDING S
- DESCENDING 5-6
  - Sequences in the Minor

[top]

Modal Mixture

- MODAL MIXTURE IN THE MAJOR
  - Lowered 6^
  - MINOR iv
  - DIMINISHED ii
  - FULLY DIMINISHED vii7
  - MAJOR VI
  - Lowered 3^
  - "IV7"
- DIMINISHED vii7 OF V
  - The Subtonic in the Major
- MODAL MIXTURE IN THE MINOR
  - Raised 7^ and 6^
  - Raised 3^ ("Picardy Third")

[top]

Chapter 18 -- Chromatic Voice-Leading to V

AUGMENTED SIXTH CHORDS

The Italian

The German

The French

THE NEAPOLITAN SIXTH (PHRYGIAN II)

[top]

Chapter 19 -- Other Chromatic Voice Leading Chords

ALTERED DIATONIC HARMONIES

Augmented Triads

Altered Dominants

AUGMENTED V AND V7

DIMINISHED V7

CHROMATIC VOICE LEADING HARMONIES

Apparent Seventh Chords

Special Uses of the Augmented Sixth

AUGMENTED SIXTHS TO DEGREES OTHER THAN 5^

AUGMENTED SIXTHS ABOVE A TONIC PEDAL

GERMAN SIXTH AND DOMINANT SEVENTH

German Sixth as Apparent Dominant Seventh.

German Sixth as Enharmonic Dominant Seventh.

Diminished Sevenths above a Tonic Pedal

COMMON-NOTE DIMINISHED SEVENTHS

LEADING-TONE DIMINISHED SEVENTH ABOVE A TONIC

PEDAL

APPENDICES

Appendix A -- Pitch Class Names and Octave Designations

PITCH CLASS NAMES

OCTAVE DESIGNATIONS

Appendix B -- Note Names

Appendix C -- Common Dynamic and Articulation Markings

DYNAMIC MARKINGS

Basic Dynamics

Variations in Dynamics

BASIC ARTICULATION MARKS

Appendix D -- Tempo Markings

BASIC TEMPO MARKINGS

VARIATIONS IN TEMPO>rubato<D>.

Accelerations

Retardations

Appendix E -- Interval Names and Sizes

INTERVAL SIZE AND QUALITY

FOREIGN EQUIVALENTS

Appendix F -- Interval Inversion

Appendix G -- Triads and Seventh Chords

Appendix H -- Scales and the Diatonic Collection

SCALES AND COLLECTIONS

THE CYCLE OF PERFECT FOURTHS AND FIFTHS

Appendix I -- The Quality of Scale-Degree Triads

Appendix J -- Rules for Figured Bass Realization

Appendix K -- Key Signatures

Appendix L -- Horn Fifths

Appendix M -- Four Bach Harmonizations of <MI>Werde munter, meine Gemthe.<D>

Introduction

What is "Common Practice" and what is "Tonal"?

Let's begin with a familiar metaphor that likens music to language. All languages possess processes and principals for the ordering of certain types of words and phrases (nouns, noun-phrases, verbs, verb-phrases, adjectives, etc.). Regardless of how languages evolve and change, all of us learn to speak without being conscious that we are using such abstract processes. Linguists call these processes grammars and they develop theories which explain how grammars work in particular places at particular times in history.

Music theorists usually refer to musical grammars as systems. During the fifteenth and sixteenth centuries in Western Europe, a particular musical grammar we call the modal system gradually evolved into the musical grammar we call functional tonality or, more simply (and arrogantly), the tonal system. This new grammar for governing the relationships of pitches and rhythms characterized most of the Western European music of the seventeenth, eighteenth, and nineteenth centuries, what we now know as the common practice period. By the end of the nineteenth century, this common tonal system underwent another period of dramatic evolution which for many modernist composers lead to the adoption of radically new grammars. Now, at the end of the twentieth century, common-practice tonality--to the extent that it survives at all--is the provenance of some post-modern musicians of the "classical," jazz, and popular music styles.

Why "Composition" and Not "Theory"?

What is Composition? This course requires students to apply the concepts and processes presented to write music. Even though the techniques described are modest and circumscribed, they will still allow you considerable creative latitude. To compose is to make choices; to compose well is to make choices that resonate (in the music that will follow) and that are resonant (of the music that has preceded). By this definition, composition involves accepting and imposing norms. It is by learning to establish clear norms that we learn to create expectations; and it is by creating expectation that we learn how to dramatically fulfuill, delay, or frustrate these expectiation. And although it is the later that we value in the music we love, it is the former that makes it possible.

What is Theory? Since the eighteenth century, many musicians have sought to explain common-practice tonality, to give it a theoretical grounding. They succeeded in giving tonality many theoretical

groundings, each incomplete. Today, music theory is a separate field of academic study, a large and active one. Most modern texts on tonal theory are not written by composers (or, for that matter, active musicians), but by scholars--music theorists. As a result, these texts aim not so much to teach the student how to write tonal music (or how it was written) as how to understand it.

There are as many ways to understand--that is, theories of tonal music--as there are theorists (or alternatively, as there are pieces of tonal music to describe). Still, we can generalize. At one extreme of the music theory spectrum are the chord grammarians; at the other the adherents of the theories of Heinrich Schenker (German pianist, music theorist, and sometime composer, 1868-1935). The former concentrate on chords, and the ways in which chords may be strung together. The latter concentrate on linear structure, on how the particular expresses the general.

Our approach here borrows freely from both ends of this spectrum, for each has something to offer. It assumes that (a) tonality is too rich and complex to yield to a single explanation and that (b) understanding (not the sort that leads to theory texts, but that leads to enhanced enjoyment and continued enrichment of musical experience) must come from several perspectives sometimes entertained simultaneously.

With this course you will begin to understand the goings-on in tonal works, some ways in which one goes about making simple tonal music, and some ways in which the techniques of tonal music make possible that rich experience which we associate with the tonal repertoire.

Why Study Common-Practice Tonality in the First Place?

The simplest answer...

...to learn one way in which we might organize the materials of music. And although we deal here with the music of dead composers, we treat the music as a living language. Is it alive? Is it a language? Scholars disagree. These issue, although important, are beyond the modest scope of this text. But for us, here, common-practice tonality is alive, vital, and an eloquent musical language.

Is common-practic tonality the only way?

Certainly not. There are many others, before and since, East and West.

Is common-practice tonality the best way?

That would depend on your goal.

So why this way?

. . . because it is a tried and true way, a way that has delivered the musical goods bountifully, for at least three, maybe four, centuries. And what goods they are, whether they come by way of Johann Sebastian Bach or Thelonious Monk! As a means of introducing students to the possibilities of music and the processes of composition, it is unparalled; for common-practice tonality has come as close as any to becoming that "universal language" so often mentioned by Romantic poets and ecstatic musicologists.

For Additional Study

Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception.* 5th ed. New York: Harper & Row, 1988. Chapter 1.

Salzer, Felix. *Structural Hearing*. New York: Dover, 1962. Chapter 1.

Schoenberg, Arnold. *Structural Functions of Harmony.* Rev. ed. Leonard Stein, editor. New York: W. W. Norton & Company, Inc. 1969. Chapters I-II.

Westergaard, Peter. *An Introduction to Tonal Theory*. NY: Norton, 1975. Chapter 1.

Williams, Edgar W. *Harmony and Voice Leading.* NY: HarperCollins, 1992. Pp. i-viii.

Top | Bottom | Previous Chapter | Next Chapter

Sound and Its Notation

Music is, by a common definition, organized sound. Music notation records this organization. However, sound has many aspects--too many for us to record easily in a written notation. As a result, musical notations record only those aspects of the sound most rigidly organized by the composer, or those of most interest to the performer.

What is sound, pitch, noise, and timbre?

Most objects possess elasticity, the ability to spring back into shape after being displaced or stretched by some force. For example, a violin string being moved when drawing a violin bow. Elasticity allows the string to not only return to equilibrium (its point of rest), but to pass through equilibrium in the other direction. As long as the bow continues pulling on the string, it will continue to oscillate or vibrate around equilibrium. One cycle consists of the initial displacement (+), the motion back through equilibrium, the continuation of the motion (-), and the motion back to equilibrium. The frequency of the sound is the number of cycles per second. Vibrating objects cause a chain reaction to take place in the air, molecules are pushed together (compressions) and stretched apart (rarifactions). The distance between peak compressions is called the wave-length.

- **Pitch.** When all the wave-lengths are the same it is considered to be periodic, and a periodic wave has a frequency that falls somewhere between 20 and 12,000 cycles per second we call the sound a pitch. (Frequently, a musical sound is referred to as a "note" or "tone." However, *pitch* is the correct term and the term that we will use here.)

- **Noise.** If the wave-lengths are of irregular length (aperiodic) we consider the sound to be a noise. *High* and *low* are metaphors for shorter and longer wave-lengths.

- **Amplitude** is the intensity of the compressions, usually proportionate to the magnitude of the displacement of the vibrating body. We experience amplitude as volume.

- **Timbre.** Not to be confused with pitch; tone, timbre, or sound-color is produced primarily by sympathetic resonances in the body of the instrument, whether it be a violin or a human voice. We would not recognize either of these instruments if we listened to their "vibrators" outside of their resonating bodies! We call the frequencies that comprise the entire resonating system the sound's spectrum, (pl. *spectra).*

Distinguishing One Sound from Another

We hear or perceive the sound when the wave-train of compressions and rarifactions reaches our ears and is processed by our nervous systems. We distinguish sounds from one another if their is a significant difference in pitch, volume, and/or timbre.

As far as our brains are concerned, distinguishing one sound from another is very much like distinguishing the difference between visual images. Light-spectra of sufficiently contrasting wave-lengths produce the edge-boundaries between images, and sound-spectra of sufficiently contrasting wave-length (contrasting pitches and timbres) produce the edge-boundaries that help use hear the difference between the end of one sound and the beginning of another.

The elapsed time between the beginning and ending of a sound (or a silence) is its duration. We will refer to the method of representing durations in hours, minutes, seconds, and milliseconds as clock-time measurements.

Psychological studies have shown that when even professional musicians are asked to recall rhythmic durations their rhythmic memories are often very inaccurate when compared to clock-time measurements. However, when they represent their recollections as proportional relationships (twice as long, half as long), they are much more accurate. No wonder music notation evolved as a system of relative rhythmic proportions. (More on this topic later.)

Pitch Notation

It is doubtful that any person can accurately identify the difference between two pitches in cycles per second. When we want to speak or write about the difference between two pitches we have no alternative but to refer to their notational representations. Our notational system profoundly shapes the ways in which we hear, imagine, classify, and subclassify musical phenomena.

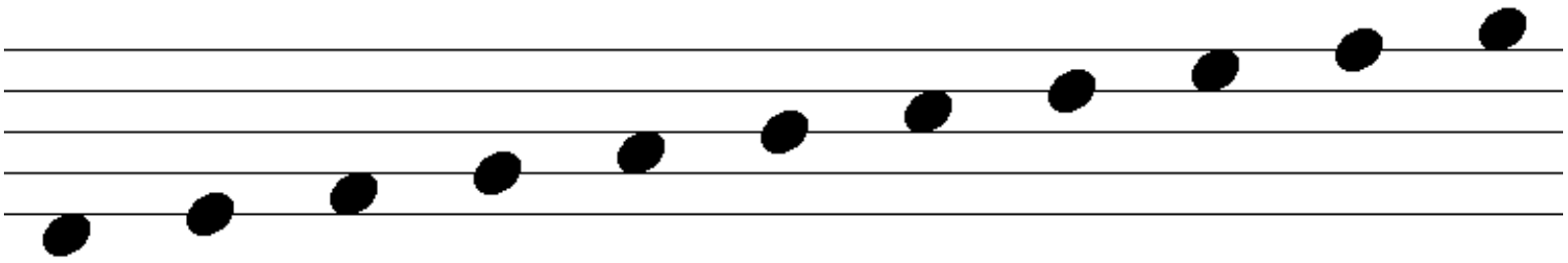
In fact, it is impossible to distinguish between our "unmediated" and "mediated" perceptions of the world. By *mediated perceptions* we mean those perceptions we consider to be shaped and filtered by the influences of others and our graphical systems of representation (for example written language and geometry). Our notational system consists of many different elements, but the elements most related to pitch are the note, the staff, and ledger lines.

The Note

The most important element of Western musical notation is the *note*. A note is the written symbol that represents a sound. A note may have three parts. The body of a note is a small ellipse, either hollow or filled in, called the *note head*. We call the vertical line that either ascends or descends from the note head the *stem*. Often, a *flag* is attached to the stem.

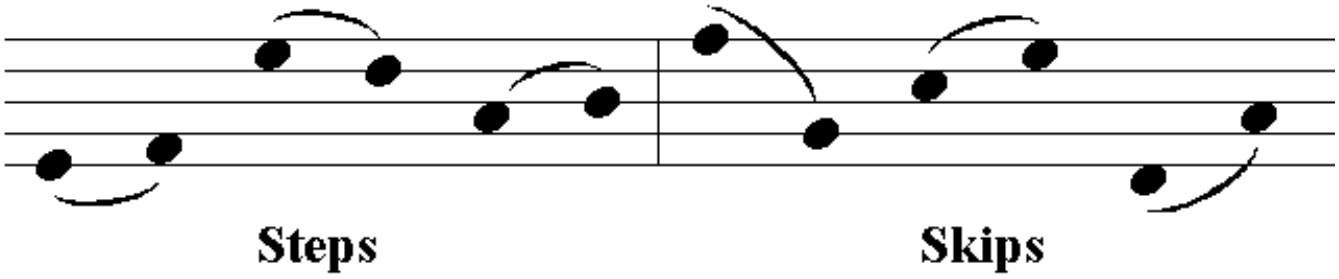
THE STAFF

The placement of the note head on the staff depicts relative pitch. To show relative pitch (that is, relative highness or lowness), we place note heads on a fixed series of five horizontal lines called the *staff* or, rarely, a *stave* (pl. *staves*). We can place a note head on a line or in between two lines--that is, in a space.



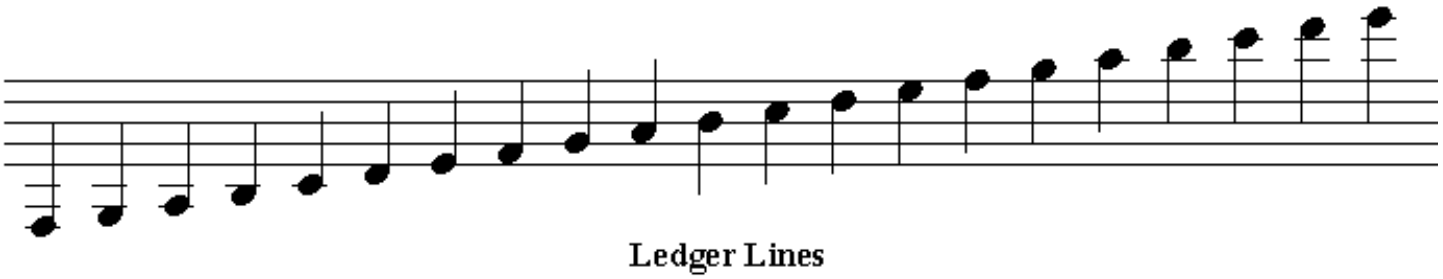
The Staff

We can extend the staff indefinitely in either direction. To write a note above the space on top of the staff or below the space at the bottom of the staff, we use ledger lines (sometimes spelled *leger* lines). We can add as many ledger lines as we need.



PITCH INTERVALS

A pitch interval is the difference between the *notational representations* of two pitches. Pitch-intervals allow us to notate and speak about two pitches in a context sensitive manner. There are three basic interval categories, unisons, steps, and skips. Each is the by-product of our notational system. Two noteheads written on the same line or space produce the interval of a unison. Two note-heads written on an adjacent line and space is a step; and two note heads separated by one or more spaces is a skip. More on pitch-intervals later..



The Harmonic Series, Pitch Class & Octave Perception

Understanding the frequency relationships within the timbre or spectrum of a single pitch will help us understand why the members of some pitch-intervals are more closely related than the members of other pitch-intervals.

The Harmonic Series

The spectrum of a pitch consists of many different frequencies called partials. The lowest partial is called the fundamental and all the others are called overtones. They are related to the fundamental by integral multiples (1:2:3:4 etc.). If the fundamental is 100 cycles per second (c.p.s.), then the spectra would consist of the frequencies 200, 300, 400, and on up into infinity. Spectra of this type are called harmonic and the series of ratios between their frequencies is called the harmonic series. ***[More...]***

Generally speaking, the amplitude of a partial is inversely proportionate to its frequency; in other words, the higher the partial the lower its amplitude. We hear the sound as a single pitch instead of a cluster of different frequencies specifically because the relationships between the frequencies are harmonically "simple" and their amplitudes favor the lowest most simple relationships of all (1:2:3:4), by far the most prominent frequencies in pitched sounds.

Pitch Classes and The Octave

The arousal patterns of the nerves in our inner ears and the neurons on the auditory cortexes of our brains have so often "mapped" these most prominent relationships that when we hear two entirely different pitches, one being twice the frequency of the other, we are tempted to think that they are merely different versions of *the same thing*. Compare listening example A to example B and I think you will be able to tell which one best illustrates this phenomenon.

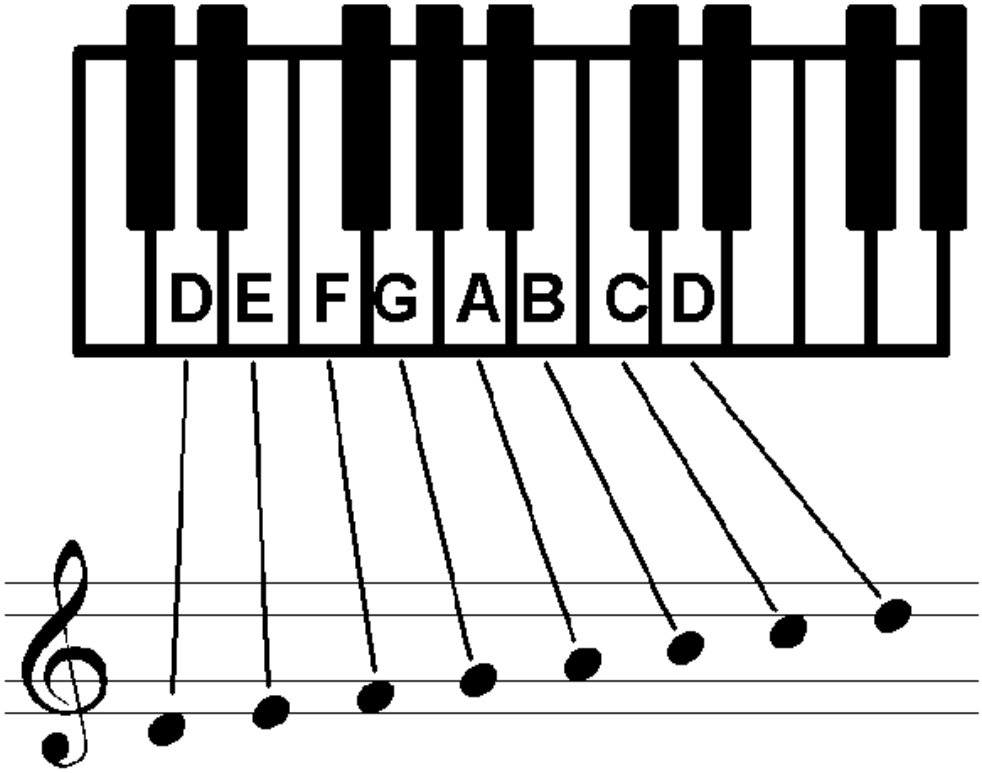
Pitch-pair A	Pitch-pair B

The pitches in example B really *are* different versions of *the same thing*. The lower of the two pitches in example B contains within its spectrum all of the most prominent partials (1, 2, 4, 8, and 16) of the upper pitch. If the lower pitch's fundamental was 260 c.p.s., partial 2 would be 520 c.p.s (equal to the fundamental of the upper pitch), and partial 4 would be 1040 c.p.s. (equal to first overtone of the upper pitch). Partials 2, 4, 6, and 8 of the lower pitch are equal to the fundamental and partials 2, 3, and 4 of the upper pitch. Instead of saying that they are different versions of the same thing, we call them members of the same pitch class. The pitch-interval between adjacent members of the same pitch class is called an octave, our most basic pitch-relationship, produced by the simplest ratio 1:2.

In Western Europe the staff system, instrument design, and music theory evolved in a way that lead to the use of 7 basic pitch-classes. They constitute the seven basic note-names: A, B, C, D, E, F, and G. (See Appendix A for a table of English and foreign pitch and pitch class names.)

THE KEYBOARD

The arrangement of white and black *keys* on a piano or similar instrument is the *keyboard*. The white keys of the keyboard bear the seven note names mentioned above.

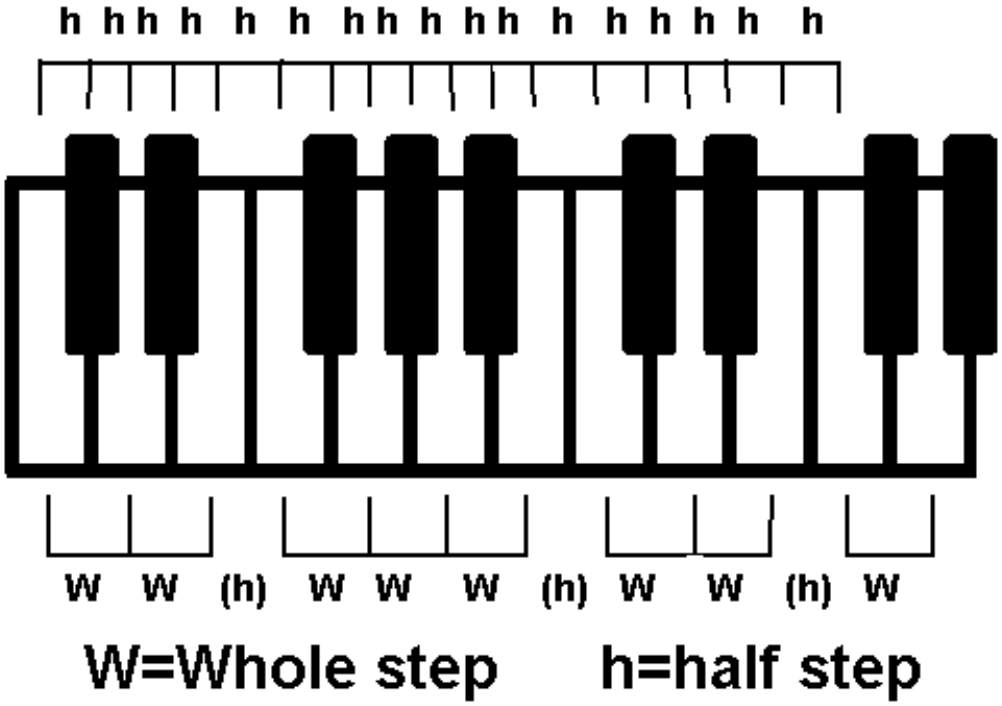


The Keyboard

The interval between two members of the same pitch class (two A's, for example), is an *octave*. *Octave* means "eight," and two successive A's are eight white keys apart. Notice that successive white notes are notated as steps.

Half Steps and Whole Steps

Technicians tune the piano so that the twelve white and black keys within the octave--any octave--divide the octave into twelve equal parts.



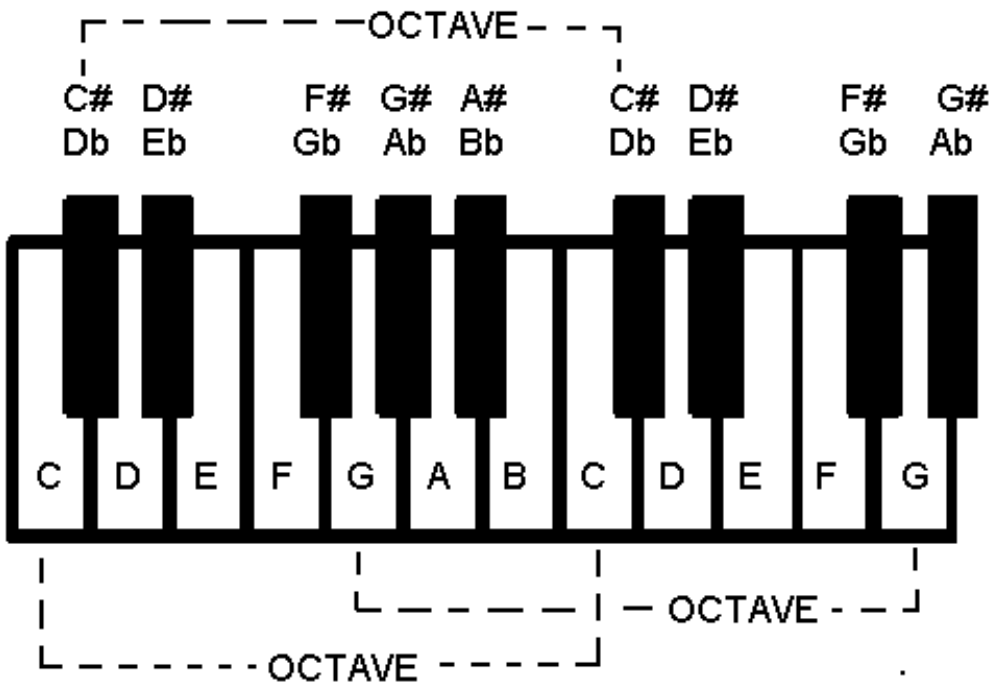
The above example shows that two different-sized steps separate adjacent white keys. The distance between any two adjoining keys--that is, any two keys, black or white, with no key between--is a *half step* (or semitone). The distance between any two keys separated by one other key (black or white) is a *whole step*. Sometimes both half steps and whole steps are referred to simply as *steps*.

The White Keys

Any seven successive white keys run through all seven letter names. *A* is the name of the class of white keys found between the two upper (that is, farthest right) members of the cluster of three black keys. Going to the right of A--that is, "upward" or to pitches of higher frequency--we come successively to B, C, D, E, F, and G. Then the cycle repeats itself with the next A, and so on.

The Black Keys

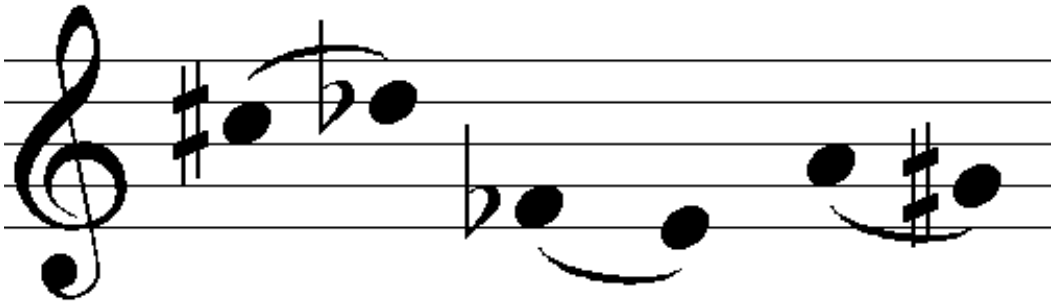
Note the asymmetric arrangement of the black keys: two black keys, then three then two again. Two intervening white keys separate each group of black keys from the next. This pattern repeats itself in each succeeding octave. Thus any key, black or white, has exactly the same position within the black-white pattern immediately surrounding it as does tat key an octave above it or below it. The black keys do not have simple letter names, but are considered altered versions of the white keys that they adjoin. Thus we can refer to the black key between A and B as either A[insert 1a] (pronounced "A-sharp") or B[insert 1b] (pronounced "B-flat"). The *sharp* raises the pitch by a half step. The *flat* lowers the pitch by a half step. Context determines which of the two terms or *spellings* we use. In general, if the pitch pulls up toward B, we call it A-sharp. If it pulls down toward A, we call it B-flat. (We will consider the factors that provide this sense of "pull" in succeeding chapters.) We refer to an unaltered white note simply as "A" or "A-natural." The sign [insert 1c] before a note head, stands for "natural."



Pitch Classes

Enharmonic Equivalence

As we saw above, each black key has two different names. We can think of the black key between C and D, for instance, as C-sharp (C *raised* by a half step) or D-flat (D *lowered* by a half step).

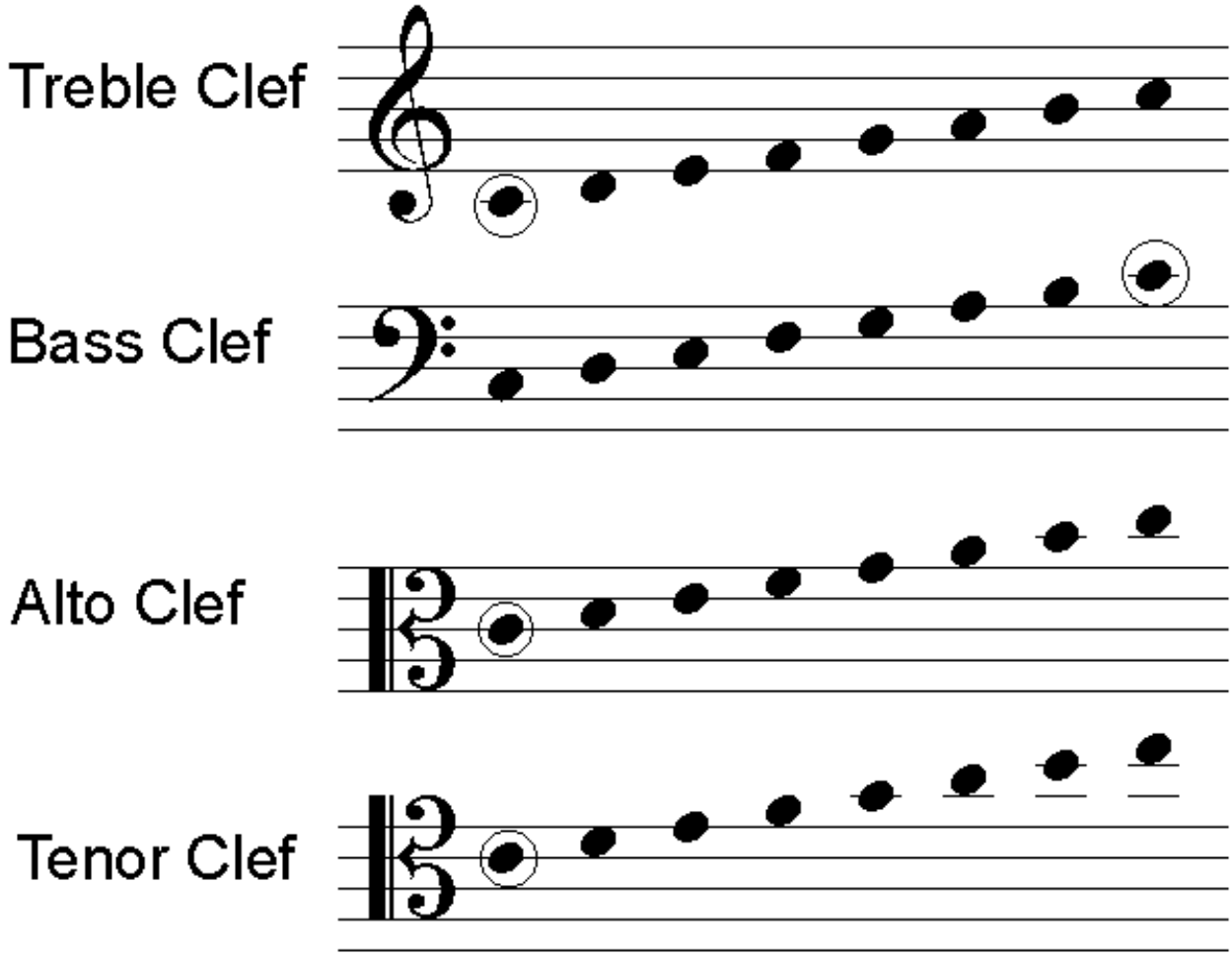


Enharmonic Equivalents

C-sharp and D-flat stand for the same pitch (that is, are produced by the same key on the keyboard). Any two notes that we spell differently but that stand for the same pitch are *enharmonically equivalent*.

CLEFS

To know which pitch class a note head on the staff represents, we must first order the staff. A *clef* (French for "key") placed at the left of each staff shows which pitch classes are represented by which lines and which spaces. There are three commonly used clefs: the *treble clef* (G clef), the *bass clef* (F clef), and the *C clef*.



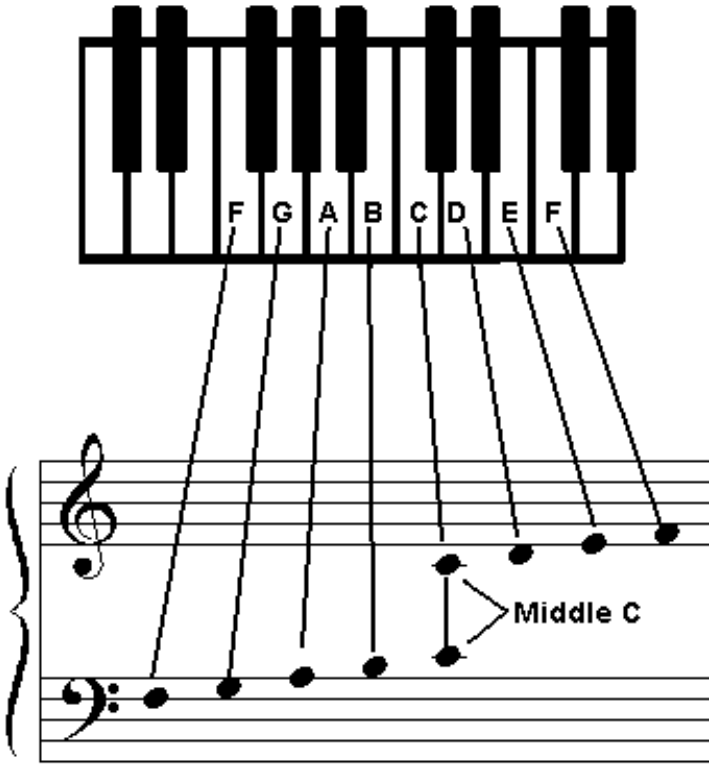
- **`Middle C.`** We call that C found in the middle of the piano keyboard (usually beneath the piano maker's name) middle C. Each clef orders the staff in relation to middle C.

- **`The Treble Clef.`** The treble clef tells us that the second line from the bottom of the staff is the G above middle C (a). For this reason, we sometimes call it the "G clef." When we add this clef to a staff, we call the staff the *treble staff*. Traditionally, students learn the treble staff by remembering the sentence: *Every Good Boy Does Fine.* (The first letters of the words give the letter names of the *lines*, bottom to top, of the treble staff--E, G, B, D, F.)

- **`The Bass Clef.`** The bass clef tells us that the second line from the top of the staff (the line between the two dots) is the F below middle C (b). We sometimes call it the "F clef." When we add the bass clef to a staff we create a *bass staff*. The first letter of each word in the following sentence recalls the *spaces*, bottom to top, of the bass staff: A, C, E, G.: *All Cows Eat Grass.*

- **`The C clefs.`** The several C clefs simply tell us where middle C is. The *alto clef* places middle C at the center line (c), and the *tenor* clef places middle C at the second line from the top (d). Of these two surviving C clefs, the alto clef is the most common.

- **`The Grand Staff.`** Often we join the treble staff and bass staff with a brace. We write middle C on the treble staff as the note one ledger line *below* the staff. We write middle C on the bass staff as the note one ledger line *above* the staff. These joined staves are called the *grand staff*.



The Grand Staff

The "Horizontal" and the "Vertical"

Simultaneously sounding pitches are written one on top of the other, or vertically, on the staff. As a rule, we call two pitches sounding together an *interval*. However, when more than two pitches sound together we use the term *chord* or *sonority* (or, less frequently, *simultaneity*). When dealing with chords, or the *vertical* aspect of music, we are dealing with *harmony*.

Pitches that sound in succession are written one after the other from left to right, or horizontally, along the staff. We call such a succession a *melody* or *tune*--or, more abstractly, a *line* or *voice*. When dealing with melody, we are dealing with the *linear, melodic*, or *horizontal* aspect of music.

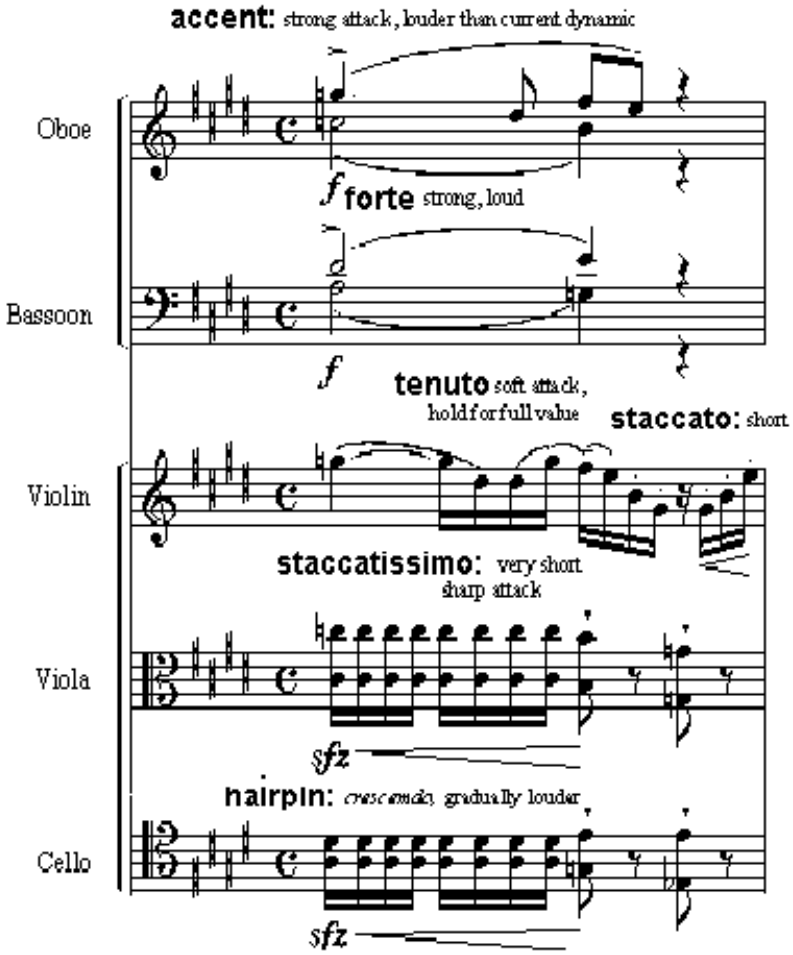
As we shall repeatedly discover, Western music binds the vertical and the horizontal tightly together. Although it is possible to concentrate on one or the other from time to time, we cannot meaningfully separate the two.

Timbral Notation

Traditionally, Western musicians notate (and seek to control) three aspects of timbre. First, we represent the sound source by providing each instrument its own staff. Second, we represent the relative loudness or softness of a sound using *dnamic marks*. Third, we control how individual notes are played with *articulation marks*.

The Score

When the individual staves of music for different instruments are joined together by a *brace*, a *score* is created.



Other determinants of timbre are notated less precisely.

Dynamics

The relative loudness or softness of a sound is its *dynamic*. The words, letters, and symbols that depict relative dynamics are *dynamic marks*.

- **Basic Dynamic Marks.** The Italian terms *piano* (soft, abbreviated *p*) and *forte* (strong or loud, abbreviated *f*) are the basic dynamic values. Most others derive from these two. For example, *pianissimo* (*pp*) means "very soft, softer than piano." *Fortissimo* (*ff*) means "very loud, louder than forte."

- **Other Dynamic Marks.** *Crescendo* (abbreviated *cresc.*) tells us to get gradually louder. *Decrescendo* or *diminuendo* (abbreviated *decresc.* and *dim.*) tell us to get gradually softer. We represent a crescendo or decrescendo graphically with what is popularly called a *hair-pin*: [insert 1d] A [insert 1e] represents a *crescendo*, and a [insert 1f] represents a *decrescendo* or *diminuendo*.

Appendix C provides definitions of common dynamic marks.

Articulation

Articulation marks tell the performer how to begin a note, how to sustain it, and how to connect it to other notes. Articulation is suggested in three ways.

- **Articulation Marks.** Articulation marks (for example, [insert 1g], [insert 1h], or ^) affect the way in which the performer is to attack and sustain a note.

- **Phrasing Marks.** A dependent division of a melody is called a *phrase*. It is like a clause in prose. Phrasing marks demarcate these divisions and instruct the performer on how to connect one note to another.
- **Descriptive words.** Finally, composers use descriptive words--such as *legato* (smoothly connected), *espressivo* (expressively), or *tenuto* (held, sustained)--to suggest a gneral manner of articulation and performance.

The sample score (above) uses and explicates many of these symbols. Appendix C provide definitions of common articulation marks.

Summary

A musical sound has three qualities: pitch, duration, and timbre. Western musical notation precisely records all three. The primary symbol is the note. A note can have three parts: a note head, a stem, and a flag.

The placement of the note head on a five-line staff depicts relative pitch. The clef orders the staff, allowing a note to specify a particular pitch. We join the treble staff and bass staff to form the grand staff.

The type of note head (hollow or filled in) and the presence or absence of a stem, flag or flags represent the relative duration of a note.

We accord every instrument its own staff. Articulation marks tell us how to begin, sustain, and connect notes to one another.

For Additional Study

- Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception.* 5th ed. New York: Harper & Row, 1988. Chapter 1.
- Mitchell, William J. *Elementary Harmony.* 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1948. Chapter 1.
- Piston, Walter. *Harmony.* 5th ed. Revised and expanded by Mark DeVoto. New York: W. W. Norton & Company, Inc. 1987. Chapter 1.
- Westergaard, Peter. *An Introduction to Tonal Thery.* New York: Norton, 1975. Chapters 1-2.
- Williams, Edgar. *Harmony and Voice Leading.* New York: HarperCollins, 1992. Chapter 1.

Top | Bottom | Previous Chapter | Next Chapter

Pitch Interval, Consonance, and Dissonance

As we learned in Sound and Its Notation, music has both vertical and horizontal dimensions. It consists of both pitches sounded simultaneously (harmony) and pitches sounded in series (melody). The intervals that separate pitches (harmonically or melodically) provide those pitches with either a sense of stability or instability.

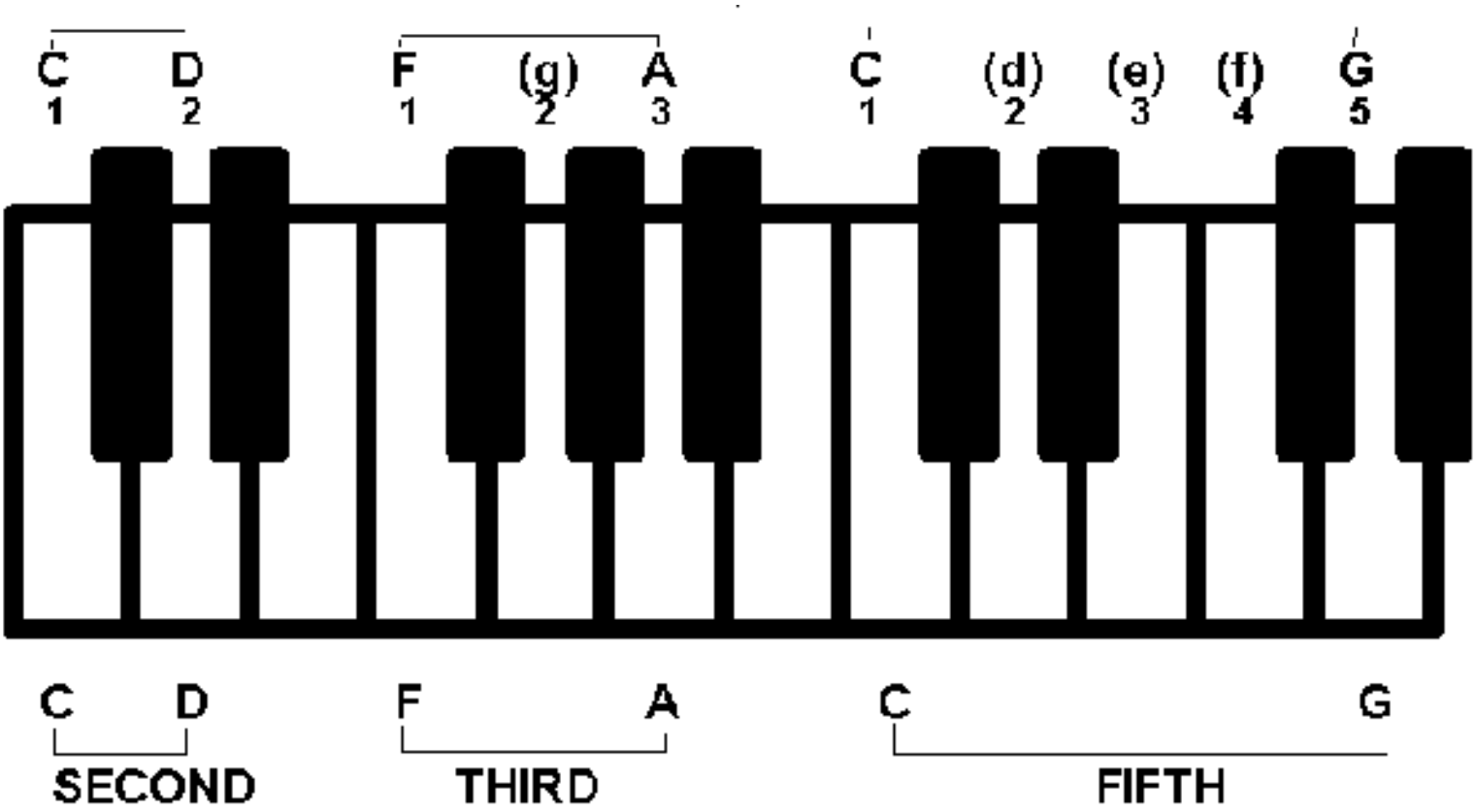
The study of harmony is the study of these two states, and of the imaginative and dramatic control of the relationship between them. We begin that study by identifying and classifying the different aspects of each.

Measurement of Pitch Intervals

A *pitch* interval (hereafter simply called and "interval") is the distance between two notes. We calculate that distance by counting the lines and spaces that separate the two notes on the staff. Alternatively, we can calculate the distance by counting the number of half steps that separate the notes on the keyboard. The former measurement of an interval is its *ordinal* or *diatonic size*. The latter measurement its *absolute size*. The absolute size of an interval determines that interval's *quality*. We refer to an interval by both its diatonic name and its quality.

The Ordinal or Diatonic Size

We determine the ordinal size of an interval by counting, *inclusively*, the number of lines and spaces that separate the two notes involved. This, in effect, measures the number of white keys that make up the interval.

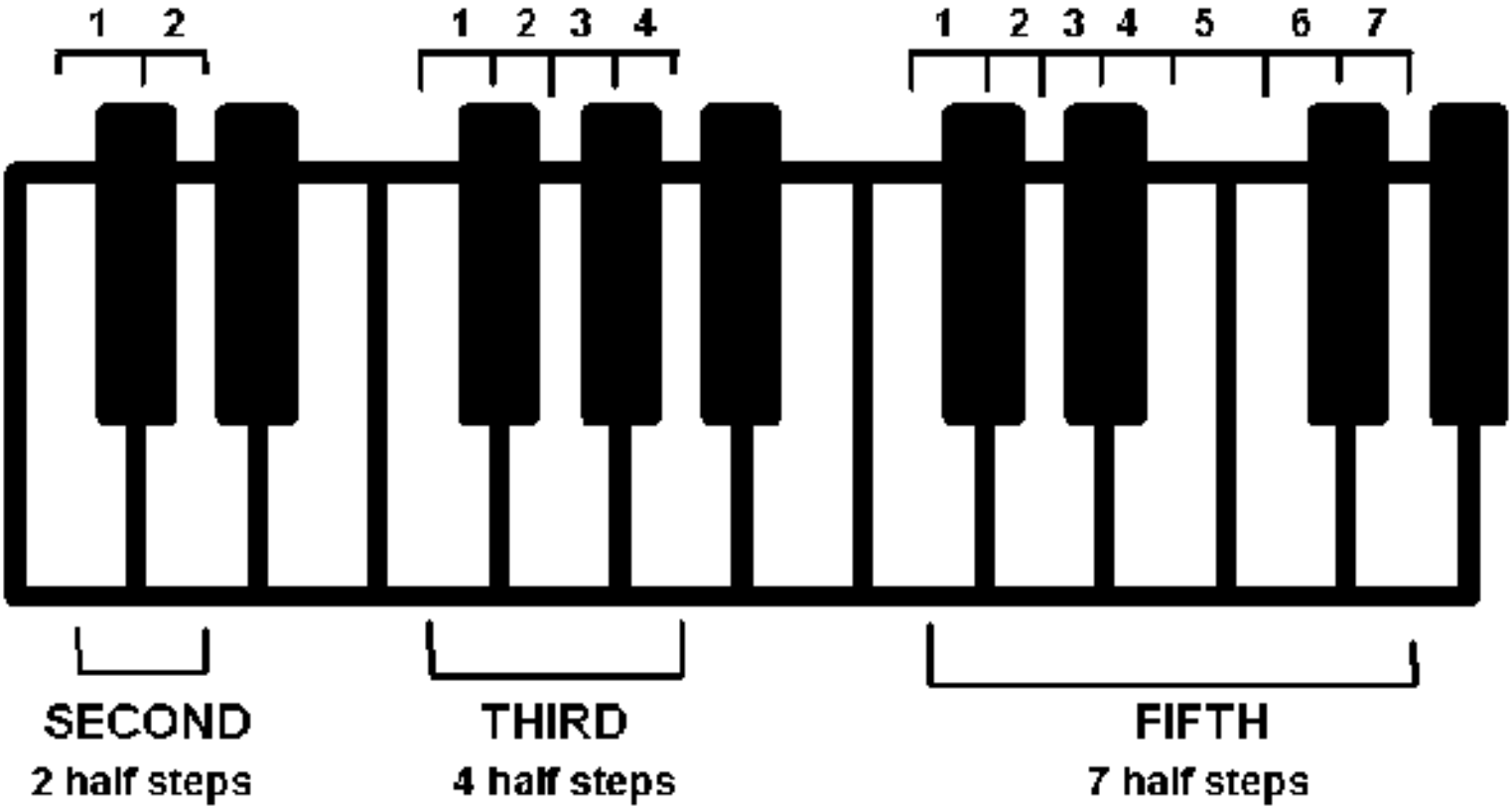


The white keys of the piano form what we call a *diatonic collection*. Thus, we frequently call the ordinal size of an interval its *diatonic size*. (The diatonic collection is discussed in detail in Chapter 3 and Appendix K.)

The Absolute Size

We measure the absolute size of an interval by counting the number of half steps between the bottom and top notes.

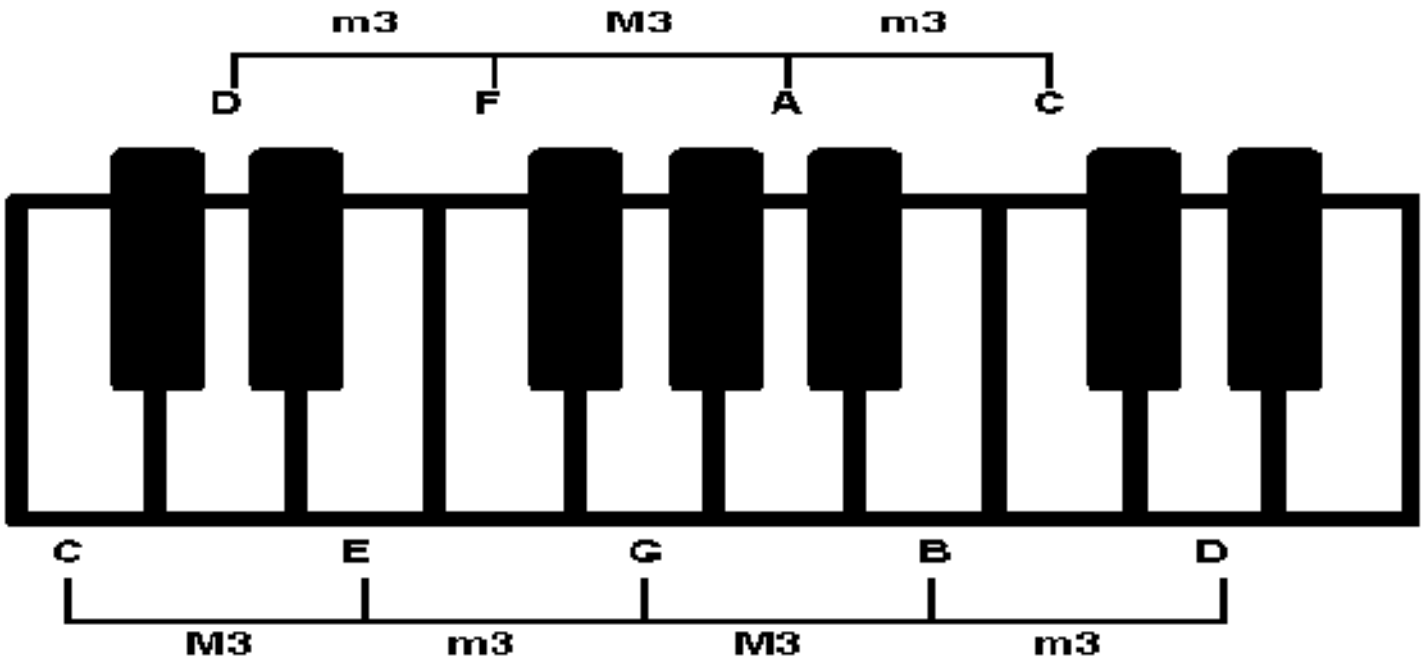
When you calculate the absolute size of an interval, count the distances between successive piano keys, not the keys themselves.

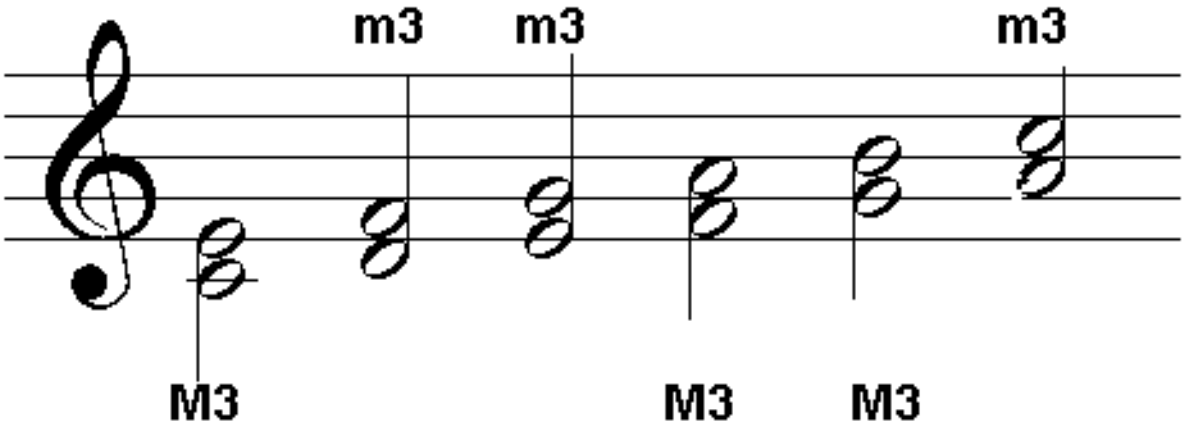


Remember that the absolute size of an interval determines that interval's *quality*.

THE DIATONIC QUALITIES

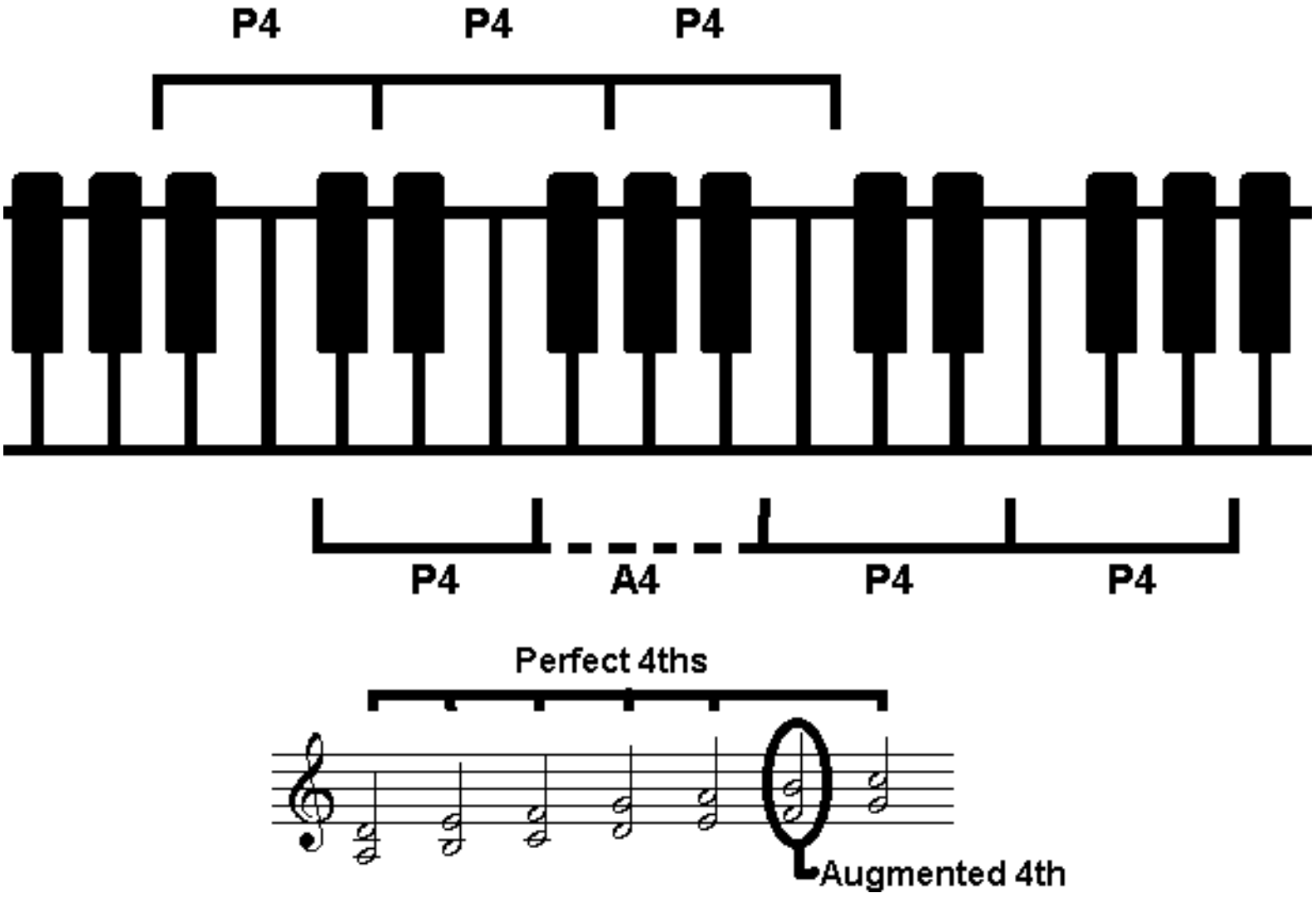
Within a diatonic collection (the white keys of the piano, for instance), each diatonic interval smaller than an octave comes in two (absolute) sizes. For instance, of the seven thirds found between white keys, three are large (four half steps) and four are small (three half steps).





The larger thirds are called *major* thirds. The smaller thirds are called *minor* thirds.

With one exception, diatonic fourths (and fifths) come in a single size--five half steps (fourths) and seven half steps (fifths). These are called *perfect* fourths and fifths.



A diatonic interval can be of a type that is major or minor *or* of a type that is perfect. It cannot be of both types.

THE CHROMATIC QUALITIES

One diatonic fourth (F-B) and one diatonic fifth (B-F) are *not* perfect. Six half steps span the fourth F-B, but a perfect fourth is only five half steps. A fourth that is one half step larger than a perfect fourth is an *augmented* fourth.

The fifth B-F spans six half steps as well, but a perfect *fifth* is seven half steps. This B-F fifth, then, is a half step *smaller* than perfect. Such a fifth is called a *diminished fifth*. The interval of six half steps (however it is spelled) is a *tritone*.

> **Diminished Intervals.** If the absolute size of a diatonic interval is one half step *less*than the minor or perfect interval of that diatonic type, we call it diminished. If it is *two*half steps less, we call it *doubly diminished.*
>
> **Augmented Intervals.** If the absolute size of a diatonic interval is one half step *more*than a

major or perfect interval of that diatonic type, we call it augmented. If it is *two*half steps more, we call it *doubly augmented.*

Appendix E catalogues interval names, qualities, and sies.

SIMPLE AND COMPOUND INTERVALS

Intervals of an octave or less are *simple intervals*. Intervals that exceed the octave are *compound intervals*. A compound second (that is, the interval of an octave plus a second) is a *ninth.* A compound *minor* second is a *minor ninth*, a compound *major* second is a *major ninth*, and so on.

Inverting Pitch Intervals

To *invert* an interval we take the lower pitch of the interval and make it the higher one. Alternatively, we can take the higher pitch of the interval and make it the lower one. To invert an interval, follow these steps *in this order*.

First, **find the *inverted diatonic name***by subtracting the original interval's diatonic size from nine.

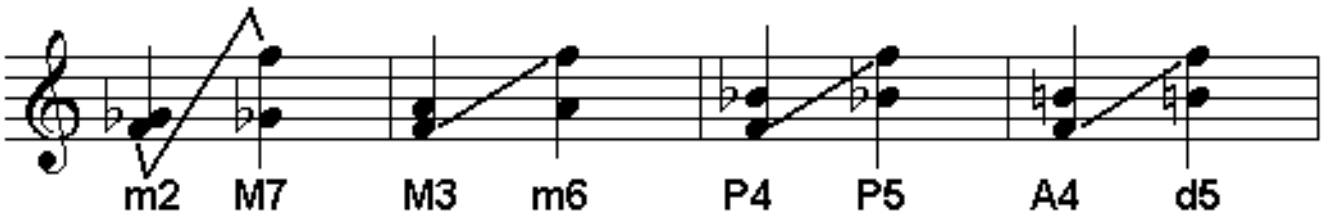
Second, **find the *inverted quality*** by converting the original quality as follows:

A minor interval inverts into a major interval (and vice versa).

A perfect interval inverts into another perfect interval.

A diminished interval inverts into an augmented interval (and vice versa).

Third, **find the *inverted absolute size***by subtracting the absolute size of the original interval from twelve.



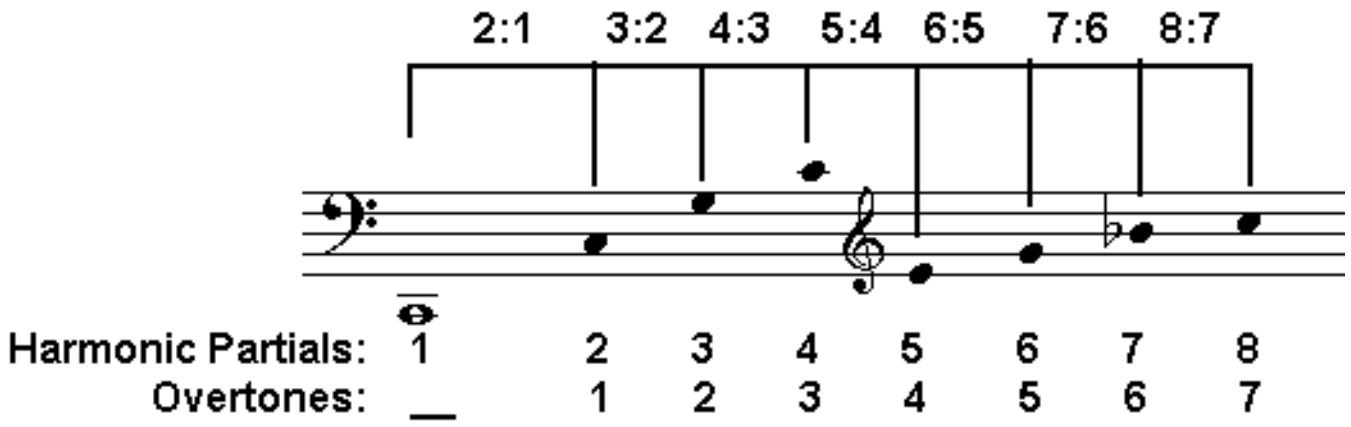
Remember: You must first find the diatonic size of the inverted interval. For example, a third always *inverts into some kind of sixth, no matter what the absolute size.*

Appendix F illustrates these inversional relationships.

The Acoustic Foundations of Consonance and Dissonance

When we hear a note played by some instrument, we hear not only that primary pitch, or *fundamental*, but a series of other pitches as well. We call these subsidiary pitches *overtones*. Their frequencies are whole-number multiples of the fundamental frequency. (That is, the first overtone is twice the frequency of the fundamental, the second is three times that of the fundamental, and so on.) As the overtones ascend above the fundamental, the interval between successive overtones gets smaller as the ratio between their frequenies becomes more complex.

Informally, musicians sometimes call overtones *harmonics* or *partials*. This is not quite right. When these terms are used properly, the first overtone refers to the *second* harmonic or partial. That is, the first harmonic is the fundamental itself (see example 2-6).



The fundamental and the first five overtones above it form what is sometimes called the *chord of nature*. In what sense this object is "natural" is open to question. However, we do find in it the prototype for each of the traditionally consonant intervals. (Gutwein's students: study this link> Appendix P: the harmonic series)

CONSONANCE AND DISSONANCE

In large part, this book concerns the relation between dissonance and consonance. We will continually reevaluate these terms as we go along. For now, think of consonance as a state of stability and rest, and dissonance as a state of instability or motion. Disregard the colloquial usage that associates consonance with acoustic pleasure and dissonance with acoustic pain.

Consonance

We call *consonant* all perfect intervals, as well as all major and minor intervals *that do not contain adjacent pitch classes*. Of the consonant intervals, we call those with the least complex interval ratios *perfect* consonances. We call the remainder *imperfect* consonances. (Later, we will discuss in what sense one consonance is more "perfect" than another.)

THE PERFECT CONSONANCES

The perfect unison, the perfect fourth, the perfect fifth, and the perfect octave are all perfect intervals. They are also perfect consonances.

THE IMPERFECT CONSONANCES

Major and minor thirds and sixths are imperfect consonances. (Major and minor seconds and sevenths, since they contain adjacent pitch classes, are not consonant at all, but dissonant.)

THE TRIAD

If you combine any three pitch classes so that none is a step from another, you have created a *triad*. *A triad contains no adjacent pitch classes.*

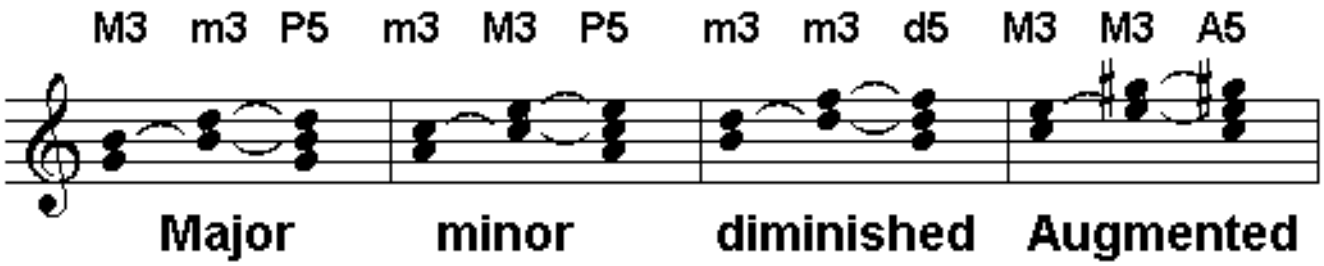
Origin. Many theorists derive the triad from the "hord of nature." Many others question the adequacy and others the accuracy of this derivation.

Structure. The triad consists of three pitch classes: the *root, third,* and *fifth*. The *root* of a triad is that pitch class standing respectively a third and a fifth below the other two pitch classes of the triad. The *third* of a triad is that pitch class standing a third above the root of the triad. The *fifth* of a triad is that pitch class standing a fifth above the root of the triad.

Thus, with the root at the bottom of a triad, the other two pitch classes stand a third and a fifth above that root. The kinds of thirds and fifths that make up the triad determine the *quality* of the triad.

Qualities. A triad can be either *major, minor, diminished,* or *augmented*. A *major triad* has a *major third* between the root and third and a perfect fifth between root and fifth. A *minor triad* has a *minor* third between the root and the third. A perfect fifth spans the distance from root to fifth.

A *diminished triad* has a minor third between the root and third and a *diminished* fifth between root and fifth. An *augmented triad* has a major third between the root and third. As a result, an *augmented* fifth spans the distance between root and fifth.



Appendix G provides a graphic synopsis of triad structure.

DISSONANCE AND CONSONANCE

Major and minor triads are consonant since they contain only consonant intervals. Diminished and augmented triads, however, contain fifths that are not consonant (that is, not perfect). Accordingly, augmented and diminished triads are dissonant.

Dissonance

All sevenths and diminished and augmented intervals are considered *dissonant*. Whether we play the pitches of a seventh or an augmented or diminished interval simultaneously (harmonically) or successively (melodically), they remain unstable.

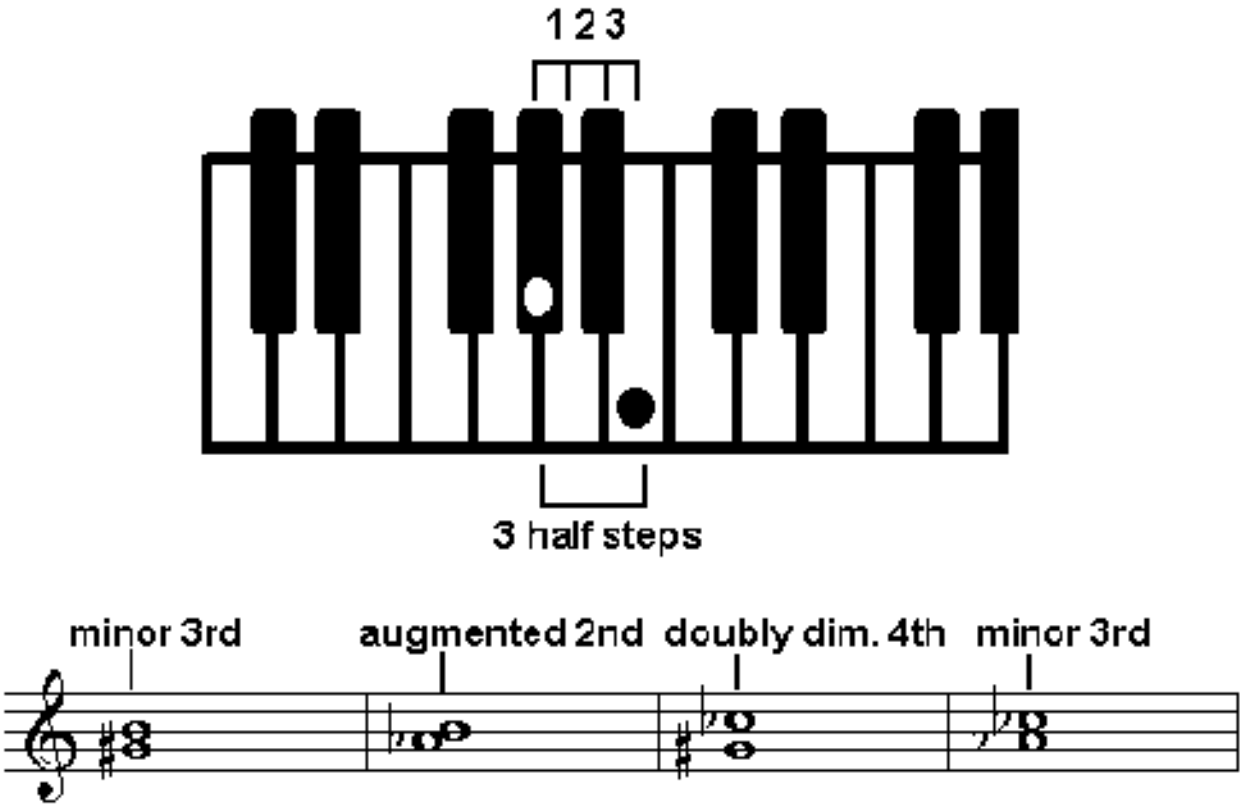
Major and minor secondsare, however, more ambiguous. If we express their pitches harmonically, they are dissonant; but if we express them melodically they are consonant.

HARMONIC AND LINEAR DISSONANCE

Because triads contain only nonadjacent pitch classes, the distance between them is always some kind of skip. Melodies, however, move mainly by step between adjacent pitch classes. Thus, in a harmonic context, major and minor seconds behave as dissonances. In a melodic context, they behave as consonances.

ENHARMONIC EQUIVALENCE

Two intervals of the same absolute size but of two *different* diatonic sizes are *enharmonically equivalent*.



G-sharp-B spans a minor third--an interval of three half steps. Although A-flat-B spans an augmented second, the absolute size is the same three half steps. The distinction is not trivial, however. By the definitions given above, that third is an imperfect consonance and the augmented second is a dissonance, *even though each is the same absolute size*.

DISSONANCE RELATED TO THE TRIAD

Major and minor triads contain only consonant intervals. A major or minor triad contains no dissonant intervals--that is, no augmented or diminished intervals and no adjacent pitch classes (seconds or sevenths). We can define "dissonance" circularly, then, as *any interval not present in either a major or a minor triad.*

DISSONANCE COMPELLED TO MOTION

Major and minor triads shape and control the harmonic or vertical aspect of music. These triads are consonant--that is, stable. What characterizes the music we love, however, is a sense of motion, of dramatic arrivals and departures. Dissonance provides this sense of motion and drama.

THE PASSING NATURE OF DISSONANCE

Consonance is both a point of departure and a goal. Dissonance is neither; it is unstable. Dissonance takes us from one place (consonance) to another. In fact, "good" harmony is nothing more (or less) than the imaginative and dramatic use of dissonance.

SUMMARY:

Intervals have both a diatonic name and a quality. To identify an interval fully, we need both designations. We can invert an interval by placing he bottom pitch on top or the top pitch on the bottom. Intervals are either consonant or dissonant. Acoustics suggests an origin for the consonant intervals.

Three pitch classes chosen so that none is adjacent to another make up a triad. We call the pitch classes of a triad the root, the third, and the fifth. We consider those triads with perfect fifths consonant and all others dissonant.

Any interval not contained in a consonant triad is a harmonic dissonance. Major and minor seconds, though harmonically dissonant, are melodically consonant.

For Additional Study

Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading.*2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapters 1-2.

Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception.* 5th ed. New York: Harper & Row, 1988. Chapters 1-3.

Fux, Johann Joseph. *The Study of Counterpoint from Johann Fux's "Gradus ad Parnassum."* Translated and edited by Alfred Mann. New York: Norton, 1965. Chapter 1.

Hall, Donald E. *Musical Acoustics.* 2d ed. Pacific Grove, CA: Brooks/Cole, 1991. Chapter 1.

Mitchell, William J. *Elementary Harmony.* 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1948. Chapter 1.

Piston, Walter. *Harmony.* 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 1.

Schenker, Heinrich. *Harmony.* Edited by Oswald Jonas. Translated by Elisabeth Mann Borgese. Chicago: University of Chicago Press. 1954. Division I.

Schoenberg, Arold. *Theory of Harmony.* Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Chapter 1.

Westergaard, Peter. *An Introduction to Tonal Theory.* New York: Norton, 1975. Chapter 1.

Williams, Edgar W. *Harmony and Voice Leading.* New York: HarperCollins, 1992. Chapter 2.

Top | Bottom | Previous Chapter | Next Chapter

MUS 201.01

APPENDICES

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O

Appendix A: Pitch Class Names and Octave Designations

PITCH CLASS NAMES

English	C	D	E	F	G	A	B
German	C	D	E	F	G	A	H
French	ut	re'	mi	fa	sol	la	si
Italian	do	re	mi	fa	sol	la	si
Spanish	do	re	mi	fa	sol	la	si

English	C-sharp	C-flat
German	cis	ces*
French	ut diese	ut bemol
Italian	do diesis	do bemolle
Spanish	do sotenido	do bemol

*In German, B-flat is irregular. Instead of the expected Hes, it is B (pronounced "Ha"). The German B, therefore, translates into English as "B-flat." Thus, J.S.Bach could represent his name musicaly with the succension, Bb-A-C-B. [back]

OCTAVE DESIGNATIONS

Octave Designations

Appendix B: Note Names

American	Whole Note	Half Note	Quarter Note	Eighth Note
English	semi-breve	minim	crotchet	quaver[1]

German	*Ganze Note*	Halbe Note	*Viertel Note*	*Achtel Note*[2]
French	*ronde [pause]*	*blanche [demi-pause]*	*noire [soupir]*	*croche*[3] *[demi-soupir]*
Italian	*semibreve*	*minima*, or *bianca*	*semiminima*, or *nera*	*croma*[4]
Spanish	*redonda*	*blanca*	*negra*	*corchea*[5]

American	Sixteenth Note	Thirty-second Note	Sixty-fourth Note
English	semiquaver	demisemiquaver	hemidemisemiquaver
German	*Sechzehntel*	*Zweiunddreissigstel*	*Vierundsechzigstel*
French	*couble-croche [quart de soupir]*	*triple-croche [huitieme de soupir]*	*quadruple-croche [seizieme de soupir]*
Italian	*semicroma*	*biscroma*	*semibiscroma*
Spanish	*semicorchea*	*fusa*	*semifusa*

[1]English speakers indicate the rest by substituting the work "rest" for "note" (that is, whole rest, half rest, and so on). [back]

[2]To indicate a rest, German speakers replace *Note* with *Pause* (*Ganze Pause*, *Halve Pause*, and so on). [back]

[3]The French terms in brackets refer to the corresponding rest. [back]

[4]In Italian, rests are indicated by the formulation *pausa di... (pausa de semibreve*, *pausa di minima*, and so on). [back]

[5]In Spanish, rests are indicated by the formulation *silencio de... (silencio de redonda*, *silencio de blance*, and so on). [back]

Appendix C: Common Dynamic and Articulation Markings

DYNAMIC MARKINGS

Basic Dynamics

These are relative terms, ranged here from the softest to the loudest.

- ***ppp*** (pianississimo).
- ***pp*** (pianissimo).
- ***p*** (piano).
- ***mp*** (mezzo-piano).

- ***mf*** (mezzo-forte).
- ***f*** (forte).
- ***ff*** (fortissimo).
- ***fff*** (fortississimo).

Variations in Dynamics

- ***cresc.*** (crescendo). Gradually louder.
- ***decresc***. (decrescendo). Gradually softer.
- ***dim.*** (diminuendo). Gradually softer.
- ***fp*** (forte-piano). Forte, then suddenly *piano.*

BASIC ARTICULATION MARKS

Articulation Marks

Appendix D: Tempo Markings

BASIC TEMPO MARKINGS

These are relative terms, ranged here from the slowest to the fastest. Each suggests a mode of performance as well as a relative speed.

- ***Largo.*** Stately.
- ***Largamente.*** Broadly.
- ***Larghetto.*** The diminutive of *largo* and a bit faster.
- ***Grave.*** Serious, solemn.
- ***Lento.*** Slowly (often used as a temporary
- marking).
- ***Adagio.*** Expressive (lit., at ease).
- ***Andante.*** Tranquil, quiet, flowing.
- ***Andantino.*** Slightly faster than andante.
- ***Moderato.*** Moderately. (No affective character.)
- ***Allegretto.*** Animated. (The diminutive of *allegro*.)
- ***Allegro.*** Lively, animated (lit., cheerful).
- ***Vivace.*** Vivacious, rapid.
- ***Presto.*** Quick, rapid.
- ***Prestissimo.*** The superlative of presto. As fast as possible.

VARIATIONS IN TEMPO

- ***rubato***. Slight, expressive accelerations and retardations (lit., robbed).

Accelerations

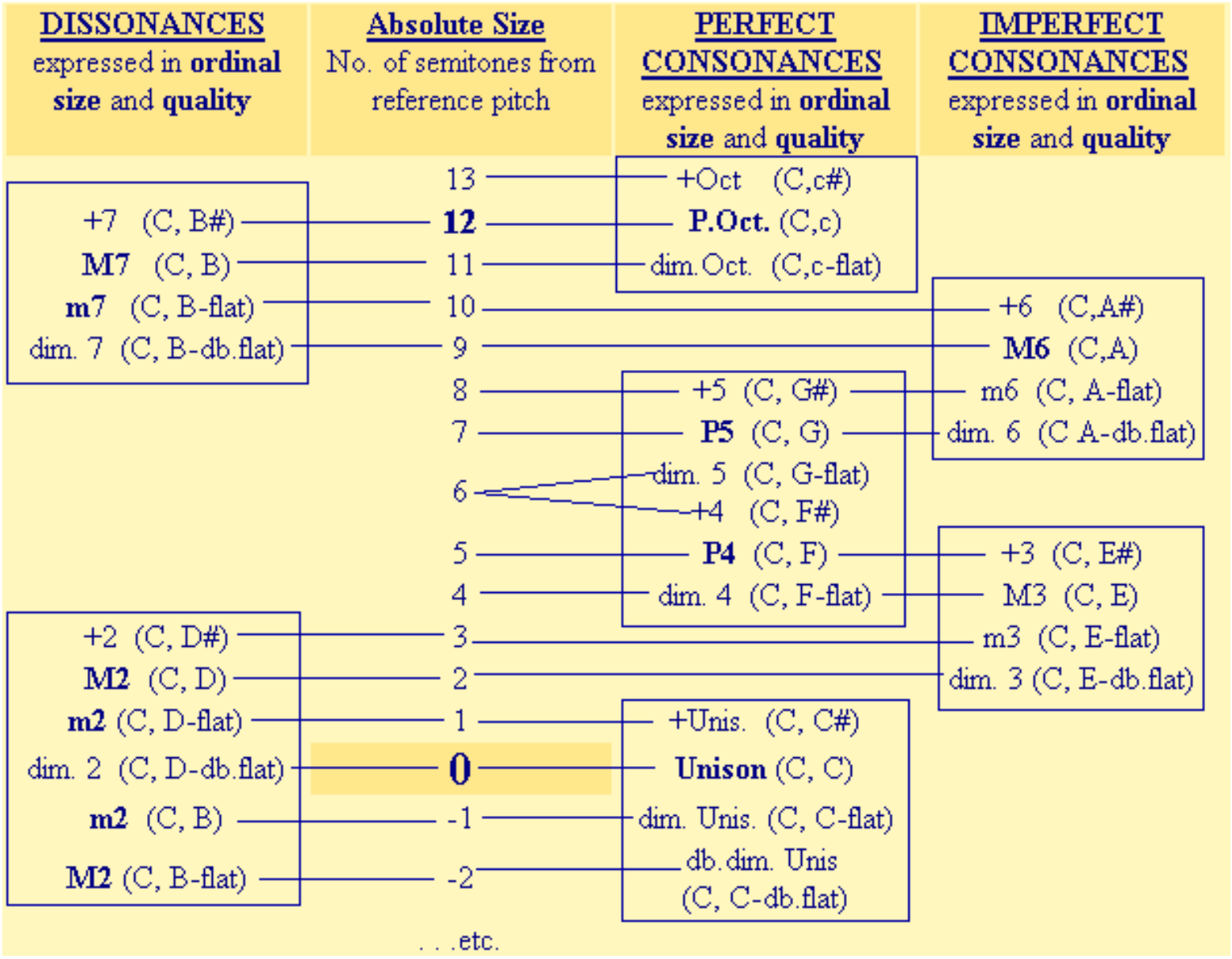
- ***Accelerando.*** Gradual increase in speed.
- ***Affrettando.*** Hurriedly; temporary increase in speed.
- ***Doppio movimento.*** Twice as fast.
- ***Incalzando.*** With growing fervor.
- ***Piu.*** More.
- ***Piu mosso, piu moto.*** More motion: suddenly faster.
- ***Poco a poco.*** Little by little.
- ***Veloce.*** Greatly increased speed.
- ***Velocissimo.*** Very fast.

Retardations

- ***Allargando.*** Broadening.
- ***Calando.*** Gradually slower and more subdued.
- ***Mancando.*** Slower and softer.
- ***Meno.*** Less.
- ***Meno mosso or meno moto.*** Less motion: suddenly slower.
- ***Morendo.*** Dying away.
- ***Rallentando, Ritardando.*** Gradually slower.
- ***Ritenuto.*** Slower, temporarily.
- ***Smorzando.*** Smothering: slower, softer, gradually subdued.

Appendix E: Interval Names and Sizes

Comparison of Absolute Size to Ordinal Size and Quality



INTERVAL SIZE AND QUALITY

INTERVAL		QUALITY	HALF STEPS
UNISON	C-C	perfect	0
	C-C#	augmented	1
SECOND	C-Dbb	diminished	0
	C-Db	minor	1
	C-D	major	2

	C-D#	augmented	3
THIRD	C-Ebb	diminished	2
	C-Eb	minor	3
	C-E	major	4
	C-E#	augmented	5
FOURTH	C-Fb	diminished	4
	C-F	perfect	5
	C-F#	augmented	6
FIFTH	C-Gb	diminished	6
	C-G	perfect	7
	C-G#	augmented	8
SIXTH	C-Abb	diminished	7
	C-Ab	dminor	8
	C-A	major	9
	C-A#	augmented	10
SEVENTH	C-Bbb	diminished	9
	C-Bb	minor	10
	C-B	major	11
	C-B#	augmented	12
OCTAVE	C-C'b	diminished	11
	C-C'	perfect	12
	C-C'#	augmented	13

FOREIGN EQUIVALENTS

	ENGLISH	GERMAN	FRENCH	ITALIAN	SPANISH	LATIN
C-C	unison	*Prime*	*uni(sson)*	*prima*	*unisono*	*unisonus*
C-D	second	*Sekunde*	*seconde*	*seconda*	*segunda*	*tonus*
C-E	third	*Terz*	*tierce*	*terza*	*tercera*	*ditonus*
C-F	fourth	*Quarte*	*quarte*	*quarta*	*cuarta*	*diatesaron*
C-G	fifth	*Quinte*	*quinte*	*quinta*	*quinta*	*diapente*

C-A	sixth	*Sexte*	*sixte*	*sesta*	*sexta*	*tonus cum diapente*
C-B	seventh	*Septime*	*septieme*	*settima*	*septima*	*ditonus cum diapente*
C-C'	octave	*Oktave*	*octave*	*ottava*	*octava*	*diapason*

Appendix F: Interval Inversion

This interval inverts...			**...into this interval.**		
UNISON	perfect	0	12	perfect	**OCTAVE**
	augmented	1	11	augmented	
SECOND	diminished	0	12	diminished	**SEVENTH**
	minor	1	11	minor	
	major	2	10	major	
	augmented	3	9	augmented	
THIRD	diminished	2	10	diminished	**SIXTH**
	minor	3	9	minor	
	major	4	8	major	
	augmented	5	7	augmented	
FOURTH	diminished	4	8	diminished	**FIFTH**
	perfect	5	7	perfect	
	augmented	6	6	augmented	

Appendix G: Triads and Seventh Chords

Triad Quality	Bottom Third	Top Third	Fifth
MAJOR	MAJOR	minor	PERFECT
minor	minor	MAJOR	PERFECT
diminished	minor	minor	diminished
AUGMENTED	MAJOR	MAJOR	AUGMENTED

Name of Seventh Chord (Less common name in parentheses)	Quality of Triad	Quality of Seventh
Dominant Seventh (MAJOR-minor)	MAJOR	minor
Major Seventh (MAJOR-MAJOR)	MAJOR	MAJOR
Minor Seventh (minor-minor)	minor	MAJOR
Minor-MAJOR	minor	MAJOR
Half-diminished (diminished-minor	diminished	minor
Fhedull-diminished (diminished-diminished)	diminished	diminished

Appendix H: Key Signatures

Major/Minor Key Signatures

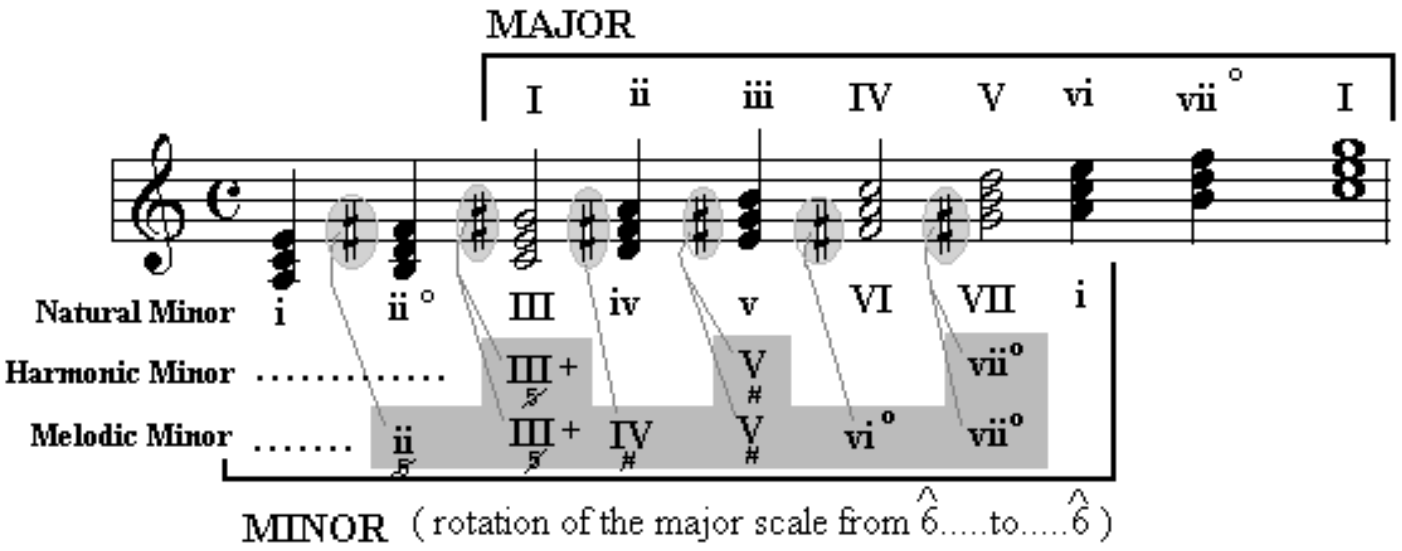
Rule: Given a major key with a key signature in sharps, *the pitch a minor second above the last sharp is the tonic.*

Rule: Given a major key with a key signature in flats, *the second to the last flat in the key signature is the tonic. (Exception:* F-major, one flat.)

Appendix I:

Scale-degree Triad Qualities
Relationships between Triads in Relative Major/Minor

(See Gutwein: *Scales and Triads Review* for an explanation of the graph below with web-audio and summaries of scale and triad theory)



The Quality of Scale-Degree Triads

		I	II	III	IV	V	VI	VII
MAJOR:		M	m	m	M	M	m	d
MINOR:	**"natural":**	m	d	M	m	m	M	M
	"harmonic":	m	d	A	m	M	M	d
	"melodic":	m	A	A	M	M	d	d

Appendix J: Rules for Figured Bass Realization

(a) Key signatures apply to the pitch classes generated by figures.

(b) A sharp before a figure *raises* the pitch class that it represents by a half step. A flat before a figure *lowers* the pitch class that it represents by a half step. A natural before a figure represents the unaltered form to the pitch class that distance from the bass.

(c) An accidental standing alone (without a figure) applies to the third above the bass.

(d) A slash through any part of a figure requires that the pitch class represented by that figure be raised by a half step.

(e) Figures do not specify the disposition of the upper voices. In a 6/4, say, the pitch class specified by the 4 may be above or below that specified by the 6.

(f) We may abbreviate figures as follows:

- [no figure] = 3, or 5 = 5/3
- 7 = 7/5/3
- 6 = 6/3 6/5 = 6/5/3
- 4/3 = 6/4/3
- 2 or 4/2 = 6/4/2

(g) A dash or dashes following a figure or a vertical group of figures indicate that the upper voices remain on the same harmony as the bass moves to another note.

(h) Frequently, two or more successive figures do not indicate different triads but only nonharmonic notes. For example, the 4-3 of example (h), below, shows the suspension in the alto voice.

Figured Bass Examples

Appendix K: Scales and the Diatonic Collection

SCALES AND COLLECTIONS

We may visualize the distinction between scale and collection by thinking of the two scales of C major and A-minor.

How do C-major and A-minor differ? We ordered them differently. In C-major, C is the first scale degree, D is the second scale degree, and so forth. In A-minor, however, A is the first scale degree and *B* is the second. In making this distinction we consider each an **ordered collection** of pitch classes: we give pitch classes in A-minor different ordinal positions than we give the same pitch classes in C major.

Now*, what do C-major and A-minor have in common?* Both contain the same seven pitch classes--in this specific case, the "white notes." So, one could say that C-major and A-minor represent different ordering of the same *un*-ordered collection of pitch classes, the "white notes." Put another way, C-major and A-minor share the same unordered collection of pitch classes, but their orderings differ.

We call the unordered collection that these two scales share--and that every major scale shares with its relative minor--the *diatonic collection*. Each major/relative minor key pair is comprised of a different diatonic collection.

We construct a diatonic collection simply by constructing a major or pure minor scale. However, the diatonic collection (often referred to simply as "the diatonic") has a much more fundamental structure.

THE CYCLE OF PERFECT FOURTHS AND FIFTHS

If we begin on any pitch class, say B, and ascend or descend from this pitch class by perfect fourths or fifths (that is by units of 5 or 7 half steps), after twelve steps we will pass through each of the twelve pitch classes (without repeating any) and, on the thirteenth try, return once again to our starting point (here, B).

The Cycle of Fifths

We may represent this cycle more clearly with a clock-face in which we replace the twelve hours with the twelve pitch classes, ascending by fourths when read clockwise, by fifths when read counterclockwise.

The Circle of Fifths

Music students recognize this figure as the "Circle of Fifths" (although we might just as well call it the "Circle of Fourths"). The musical significance of this figure is not nearly as abstract as it might now seem.

Examine the pitch classes on the circle. Put one finger on B and another on F; now, look at the series of pitch classes that connect (clockwise) B to F. This is the white note collection, our prototypical diatonic collection. If you move both fingers one pitch class clockwise (or counter-clockwise) you will find once again that the intervening pitch classes form another diatonic collection. In fact, *any group of seven adjacent positions on this circle will yield a unique diatonic collection.*

If you take the seven pitch classes from B clockwise to F (the "white note" diatonic) and then move one step clockwise, what happens? The B at one end is replaced by a B-flat at the other: the C major/a minor diatonic has been replaced by the F major/d minor diatonic--the first flat key.

Now, if you had moved counterclockwise from the B to F diatonic rather than replacing B with B-flat, you would have replaced F with F-sharp, thus replacing the C major/a minor diatonic with the G major/ e minor diatonic--the first "sharp" key.

Notice that the flats progress in key signature sequence clockwise around the circle, and sharps progress counterclockwise. Thus, the Circle of Fifths is a convenient tool for learning and remembering key signatures, major/minor scales, and the concept of "closely related keys."

Appendix L: Horn Fifths

Eighteenth- and nineteenth-century composers seldom exclude the third from a triad. We observe in Ex. L.1, however, an example of a significant class of exceptions often called *horn fifths.*

Ex. L.1

Beethoven. Symphony No. 4, Op. 60. Third movement.

Composers occasionally support the soprano motion 2^-1^ with a 5^-1^ bass. The open fifth above the 5^ suggests a dominant harmony with the third missing. The missing third imitates the natural (valveless) horn which was unable to produce the leading tone (the third of V). Whenever the leading tone is omitted when supporting 2^, even by some other instrument, natural horns are brought to mind, and the technique takes on a certain pastoral character.

We do not see such omitted thirds in chorale style but run into them frequently in instrumental works. The two Mozart excerpts that follow are characteristic.

Mozart. Sonata, K. 570. Second Movement

Mozart. Eight Variations, K. 352

Appendix M:

Four Bach Harmonizations of *Werde munter, meine Gemuthe*

Bach Harmonizations of Werde Munter, Meine Gemute

top

Appendix N: Procedure for Composing a Simple, Meytric, Tonal Melodic Line

Click | here | to view the document

top

Appendix O:

Procedures for Writing Species Counterpoint

Click | here | to view the document

top

top | bottom | next chapter | previous chapter

Scale-Degree Triads in Context

As we have seen, harmonic progressions arise from voice leading. We can describe, for example, "the function of a IV6" only in relation to a particular *musical context. In this chapter and the next, we will examine each of the diatonic scale-degree triads and various musical contexts in which they might arise.*

THE TONIC TRIAD (I)

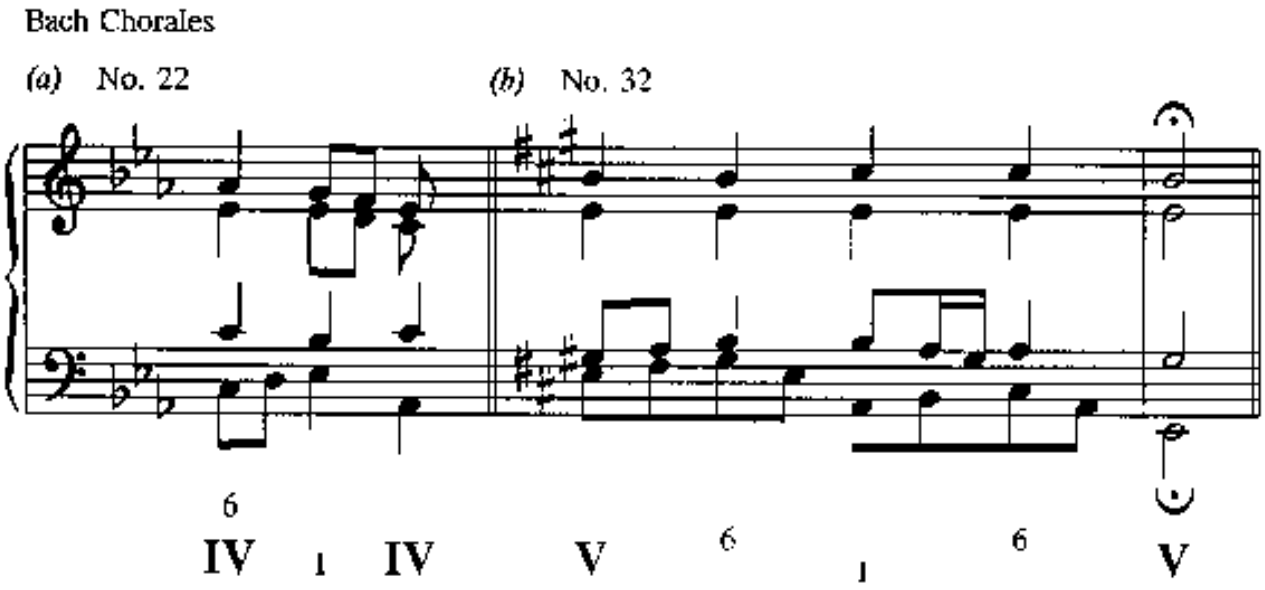
Linear progressions unfolded from the tonic triad define sections or entire compositions. The *voice-leading* functions of I are, therefore, limited.

I

The root-position tonic functions principally *as* tonic--that is, as the source and destination of all tonal movement. Occasionally the I functions as fifth divider to IV and V. When it does, it provides support for the passing notes that prolong unfoldings of IV or V.

UPPER-FIFTH DIVIDER OF IV

As upper-fifth divider of IV, I supports passing motions that prolong the arpeggiation of IV. In this context, I often sounds like the V *of* IV (see example 8-1a).



Ex. 8-1 I as Fifth Divider

LOWER-FIFTH DIVIDER OF V

I may serve to prolong V, acting as its lower-fifth divider. In this role, I supports passing- and neighboring-note motions within the dominant triad (see example 8-1b).

I

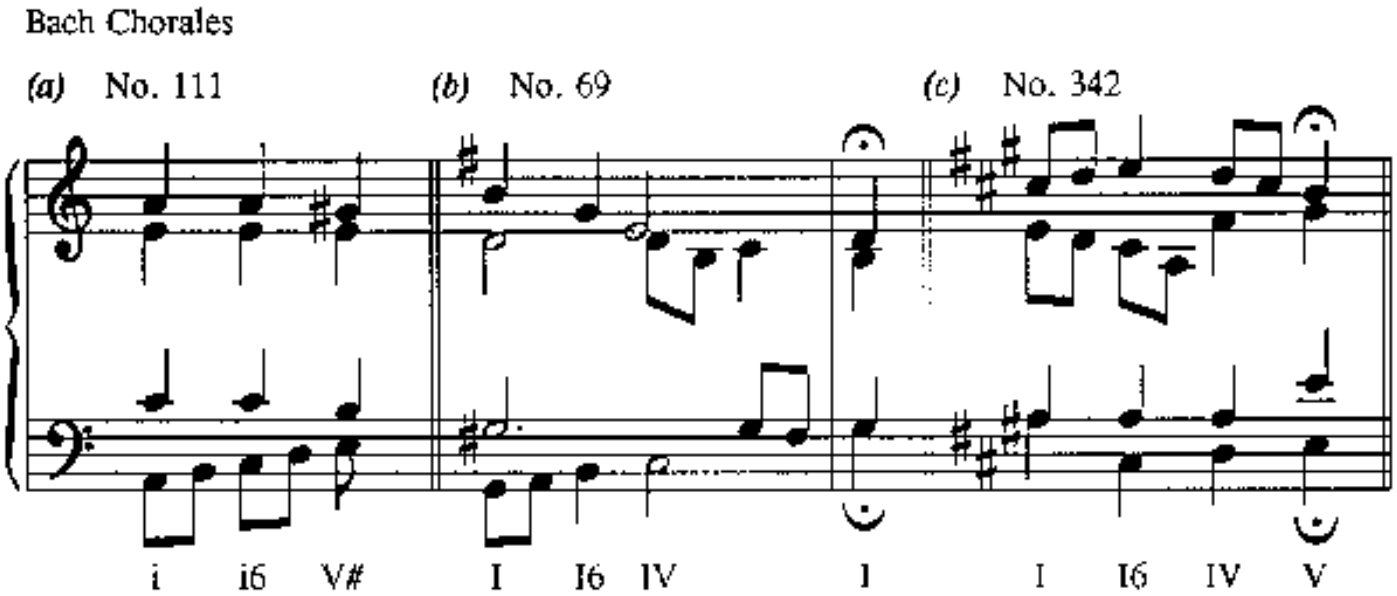
I frequently appears as support for bass arpeggiations to and bass passing and neighboring motions to .

UPPER-THIRD DIVIDER

We often find the motion from I to its upper-fifth divider V prolonged by a bass arpeggiation through . A bass passing note often intervenes between I and V (see example 8-2a).

LOWER NEIGHBOR TO BASS

We can prolong a motion to the lower-fifth divider by moving from to , the lower neighbor of . We support this incomplete neighbor with I. (See example 8-2b, where a bass passing note fills in the skip between and). The skip *down* a sixth to the unstable I makes for a dramatic opening gesture (see example 8-2c). We see this leap down to the lower neighbor of frequently in both chorale and free styles.

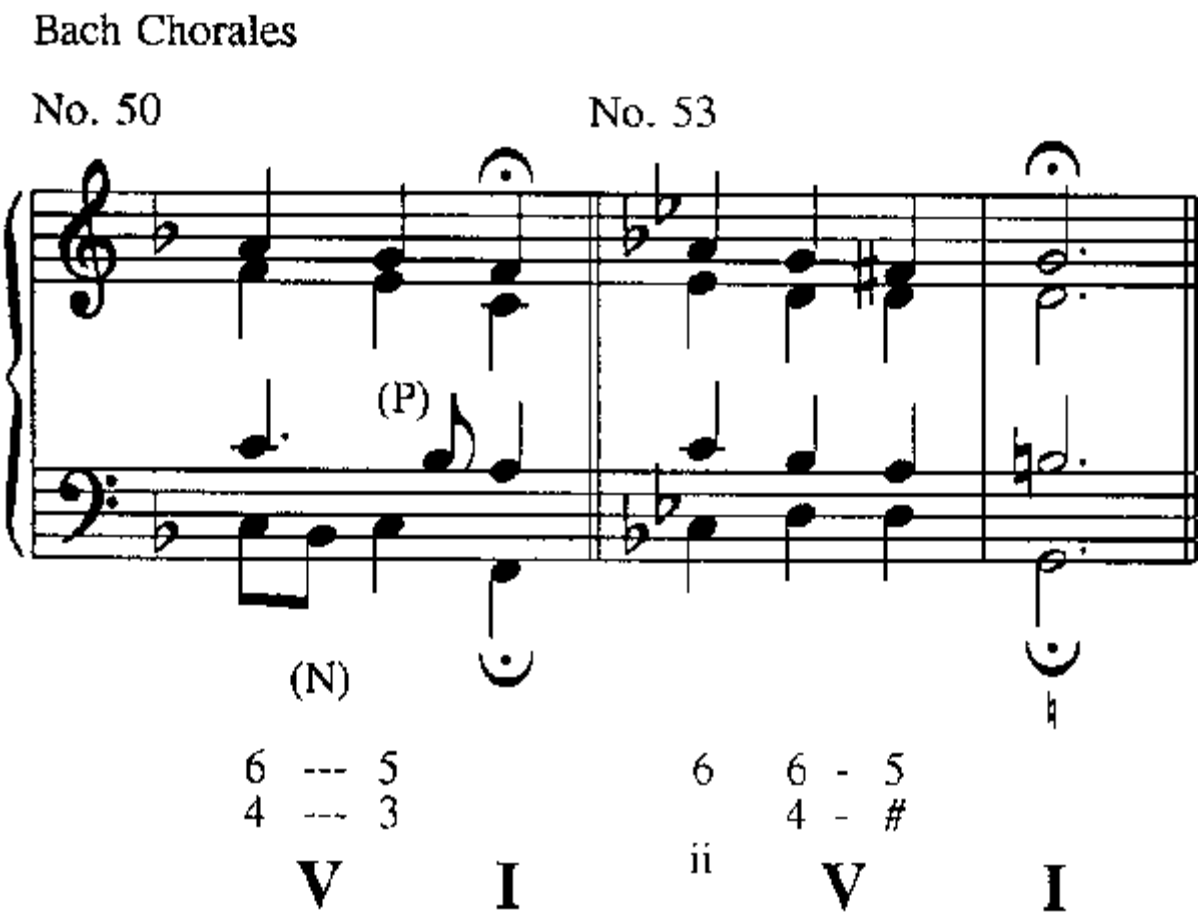


Ex. 8-2 Voice-Leading Role of I

The Cadential "I"

Frequently, we find the V of an authentic cadence prolonged by some voice-leading motion that delays its arrival. The most common method of prolongation is the *cadential* . In a cadential , the bass arrives on the root of the dominant ( ), while the upper voices delays the arrival of the expected with a neighboring . As a prolongation of V, the initial cadential

must resolve. Usually, the 6 resolves down to 5 and the 4 down to 3.



Ex. 8-3 Cadential

Objectively, this built on is a I. However, many theorists argue that it makes more sense to think of this "I" as part of the dominant harmony. The student may sometimes see the cadential progression labeled not I-V-I, but V--I. In the latter, the analyst understands the as a dissonant prolongation of the rather than as a separate chord.

THE SUBDOMINANT TRIAD (IV)

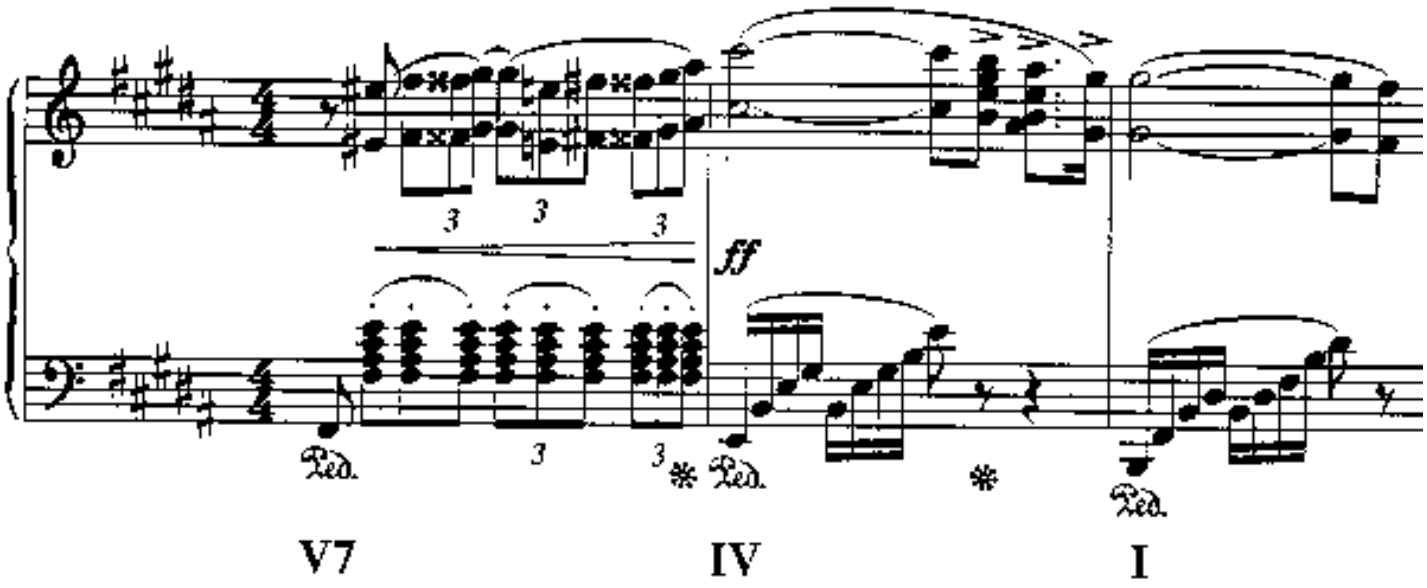
The subdominant triad (IV) supports various prolongations of the tonic triad as its lower-fifth divider.

IV

We discussed the lower-fifth-divider role of IV in Chapter 6. It supports and as neighbors to and in a prolongation of I. We discussed the plagal cadence in Chapter 6 as well. However, in free composition we occasionally see an exceptional and dramatic variant of the plagal cadence. It exemplifies a technique called *harmonic contraction*.

We often find the plagal I-IV-I at the end of a work, after the final perfect authentic cadence. It functions there like the *Amen* at the end of a hymn. It roots the tonic securely between its lower *and* upper fifths. In free composition, we occasionally find this final plagal cadence contracted. The composer omits the initial I (which succeeds the V and precedes the plagal IV). This

results in a dramatic deceptive cadence to IV . Only after IV's immediate resolution to I do we hear the contracted plagal cadence.



Ex. 8-4 Wagner, *Tristan und Isolde*, Final Scene (piano reduction)

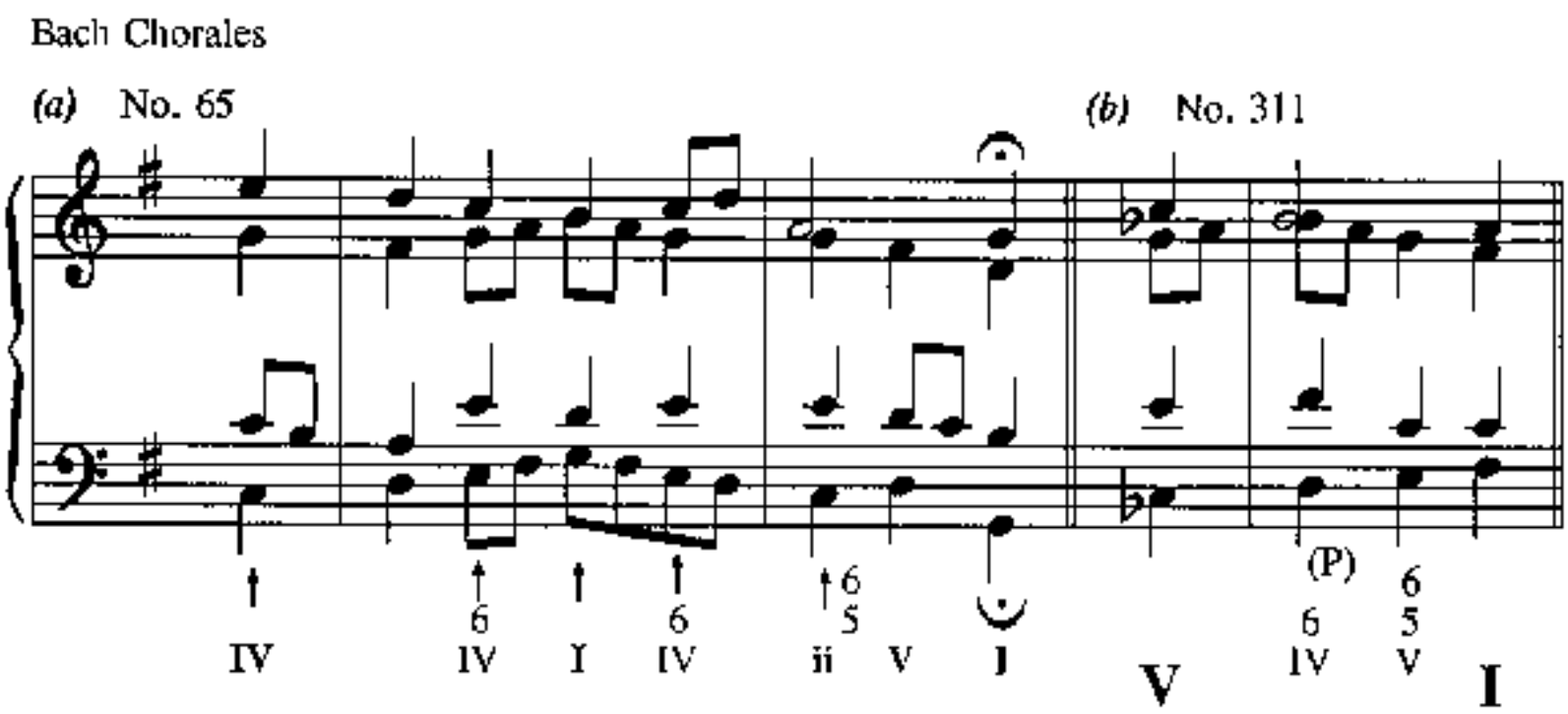
By omitting the middle I of this V-I-IV-I plagal progression, Wagner achieves both the drama of the deceptive cadence and a tonic firmly fixed between its upper and lower fifths.

IV

IV , like all s, provides passing and neighboring support for the bass.

IV AS LOWER-THIRD DIVIDER

We often see the IV serving as third divider in a descent from I to its lower fifth. In such a case, IV can simply move to the lower-fifth divider (IV). Or it can move to a voice-leading substitute--usually, ii6 (see example 8-5a).



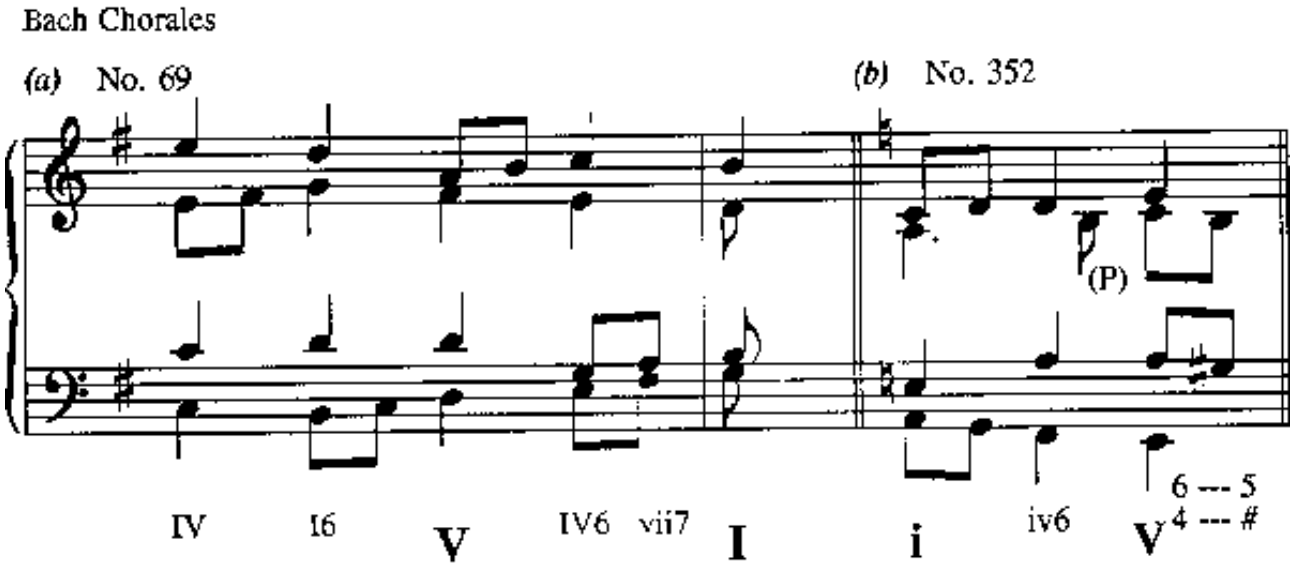
Ex. 8-5 Voice-Leading Role of IV6

IV AND V

We frequently find the passing note that prolongs the motion from V to V6 prolonged by a passing IV6 (see example 8-5b).

IV IN A DECEPTIVE PROGRESSION

Less frequently, IV6 substitutes for vi in a deceptive progression from V (see example 8-6a).



Ex. 8-6 Deceptive Progression: IV^6

Like the vi of a deceptive cadence, the IV6 completes its voice-leading motion to V in the next progression.

iv IN THE MINOR

In the minor, iv6 has an additional function. As a minor triad, its third ( ) is now only a half step from . As a result, we often find iv6 functioning as upper neighbor to (see example 8-6b).

IV

We see IV most often as a support for a neighbor-note prolongation of I. (See the discussion of neighboring s in Chapter 7.)

THE DOMINANT AND DOMINANT-SEVENTH (V AND V7)

In Chapter 6 and 7 we discussed the dominant's primary function as upper-fifth divider of I, as well as its crucial cadential role. The inversions of V and V7 serve not only these functions but also more varied contrapuntal functions.

V and V

With (the leading tone) in the bass, V^6 and V function primarily as lower neighbors to I. As such they serve either in a contrapuntal progression to I or as part of a bass arpeggiation of V (see examples 7.7a and 7.8a).

V and V

In general, the second inversions of V and V7 most often function as passing chords prolonging the bass arpeggiation I -I^6 (see examples 7.7b and 7.8b). However, Bach seems to prefer vii6 for this role.

V

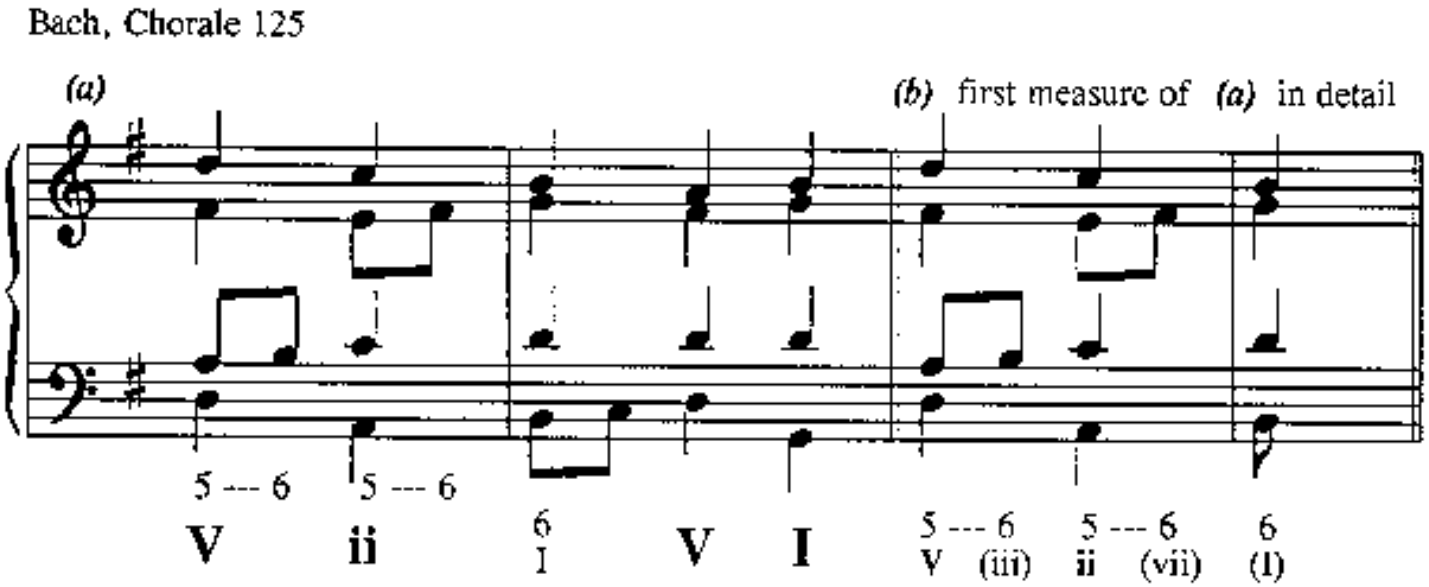
With the seventh--the dissonance--in the bass, the V functions exclusively as a neighboring chord to I6 (see examples 7.7c and 7.8c).

THE SUPERTONIC TRIAD (ii)

ii

II AS UPPER-FIFTH DIVIDER TO V

In the major, ii serves as upper-fifth divider to V (see example 8-7a).



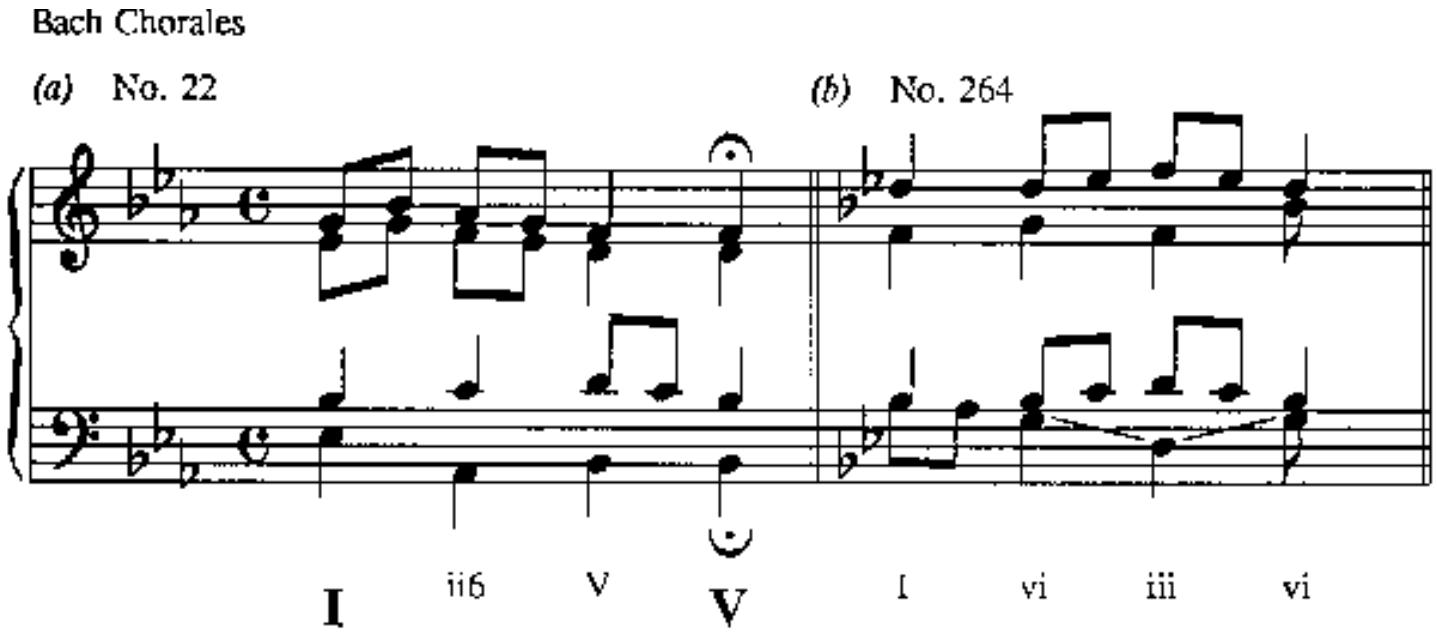
Ex. 8-7 Bach, Chorale 125

ii AND I

Students often find ii irresistible as a passing chord between I and I6. It functions poorly in this role. (V or vii6, on the other hand, are ideal.) At first glance, example 8-7a seems to contradict this. In the more detailed analysis of 8-7b, however, we notice how the 5-6 motion above the bass converts the ii into the more appropriate passing vii6 before the bass completes its motion to I6 (see "5-6 Technique," below).

ii

The ii functions as lower neighbor to V (example 8-8a) or, just as often, as a passing chord between I6 and V.



Ex. 8-8 Voice-Leading Role of ii and iii

5-6 TECHNIQUE

IV and ii6 function similarly as lower neighbors to V. And although IV is the stronger chord, it creates greater voice-leading problems. Any time we create successive root position triads, we risk forbidden parallel perfect fifths or octaves.

One common technique retains the best of both these motions to V while reducing the threat of unwanted parallels. If we begin on IV, we can convert the harmony to a ii6 by moving the 5 to a 6 in the procedure known as *5-6 technique*. In example 8-7b (above) for example, a root-position ii prolongs a V. A pair of 5-6 motions above the V-ii progression creates passing motions in the inner voices that propel the progression toward the I6. If we look at the rest of the phrase in example 8-7a we see that Bach reproduces in the *bass* as it approaches V those upward passing notes created by this 5-6 technique first in the tenor and then the alto.

THE MEDIANT TRIAD (iii)

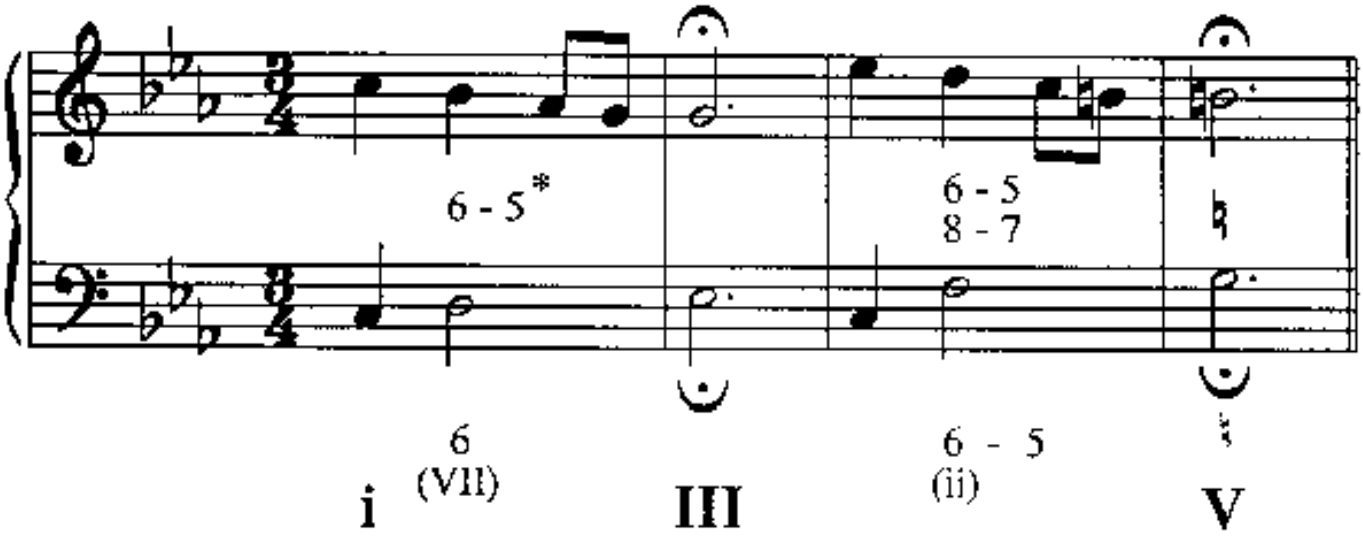
In the major, we seldom find iii in any but root position, where it serves as upper-fifth and upper-third divider. (See Chapter 10 for a discussion of III in the minor.)

iii as Fifth Divider of vi

iii often serves as upper-fifth divider of vi, as it does in example 8-8b.

iii as Third Divider

Root-position iii can function as third divider in the progression I-V. A ii6 or IV7 often passes between the third divider and V: I-iii-ii6-V-I. In example 8-9, Bach divides the progression from root-position i to root-position V[insert 8] with III.



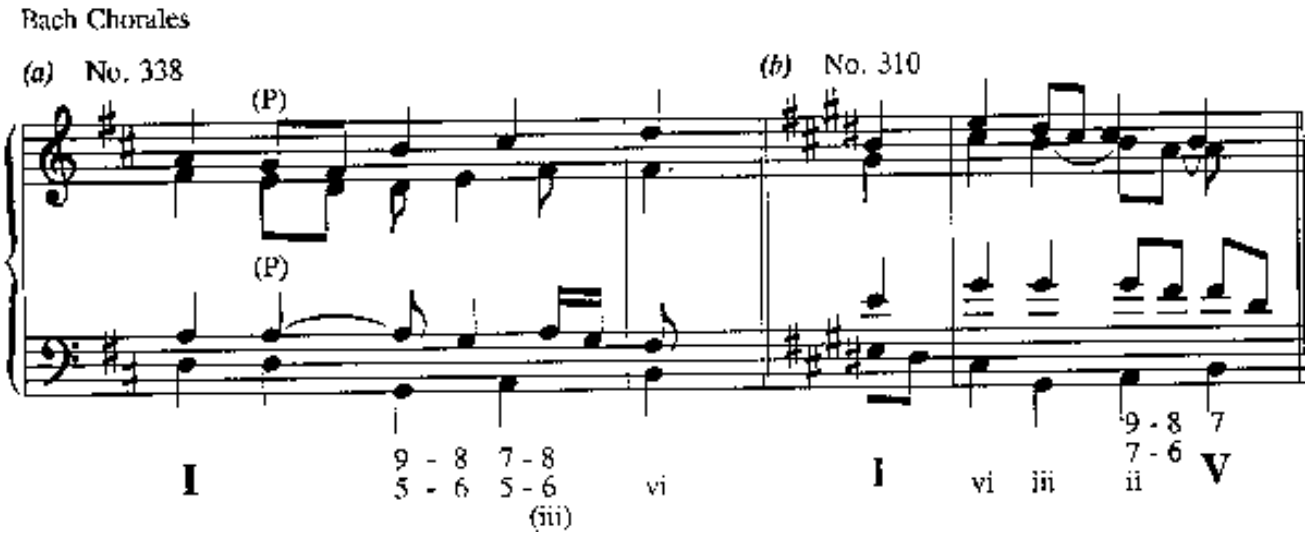
Ex. 8-9 Bach, Figured Chorale 59

VII6 supports the bass passing note between [ ] and [ ]. A ii6 supports the bass passing note between [ ] and [ ].

In Bach's figures, we see that the ii6 becomes a IV7 as the soprano moves to [ ]. We will discuss IV7s in Chapter 12. As a dissonant chord, a IV7 does not always behave like a lower-fifth divider, but can as often have a passing character.

Neighboring and Passing iiis

In a bass arpeggiation from [ ] to [ ], iii6 may support a bass passing note between [ ] and [ ] (see example 8-10a).

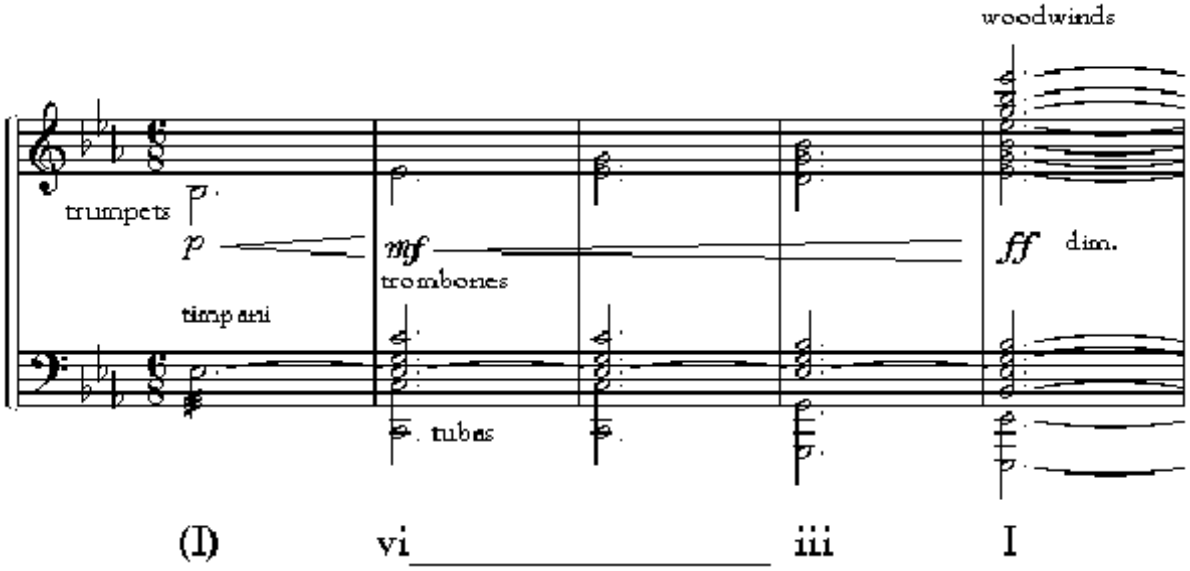


Ex. 8-10 iii: Uncommon Functions

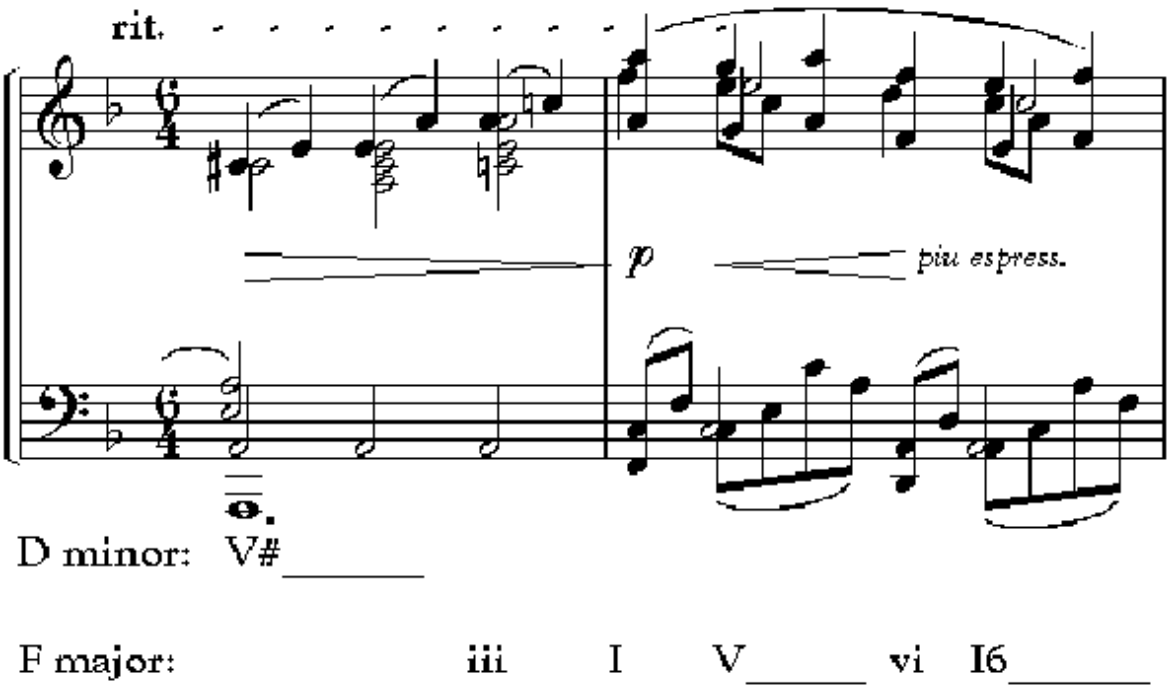
When the root of vi ( ) functions as third divider between a bass [ ] and [ ], Bach often prolongs that vi with its upper-fifth divider, iii[ ]. The root of iii ( ) then moves directly to bass [ ] as the lower neighbor (see example 8-10b).

iii as Substitue for V

In free composition, iii occasionaly substitutes for V at the cadence. While V allows a root motion from the upper-fifth divider to I, iii moves from the upper-thid divider to I. While this makes for a dramatically altered bass at the cadence, the voice leading in the upper voices remains the same since ^5 and ^7 are member of both iii and V. This concept is illustrated in Figure 8B10, a piano reduction of the end of Richard Strauss' tone poem, Ein Heldenleben (A Hero's Life).



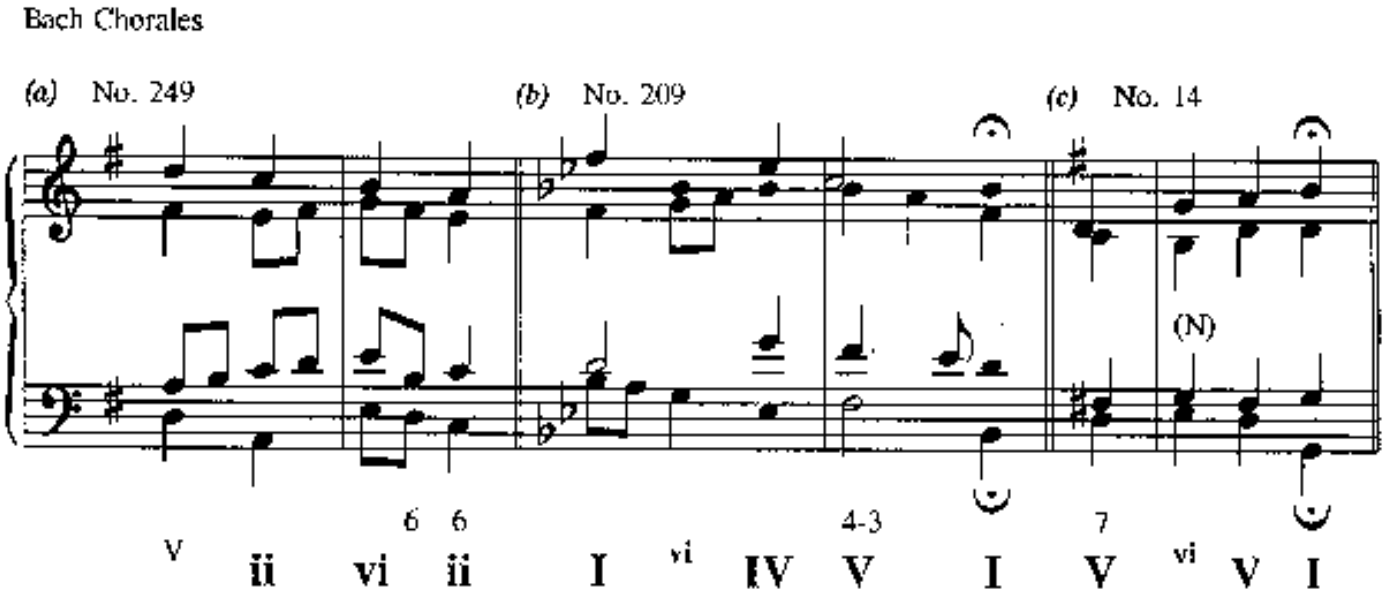
In figure 9-12, Brahms move from a tonicized from a V< in d minor to I in F major simply be lowering the third of the dominant and moving iiiBI in F major.



THE SUBMEDIANT TRIAD (vi)

vi in the Major

In the major, vi functions most often as upper-fifth divider to ii or as lower-third divider to I.



Ex. 8-11 vi in the Major

vi AS UPPER-FIFTH DIVIDER

As upper-fifth divider, vi supports a prolongation of ii (see example 8-11a).

VI AS LOWER-THIRD DIVIDER

A vi can divide the bass progression from [ ] *down* to [ ] with a bass [ ] (see example 8-11b).

Notice that the bass [ ] supports either the lower-fifth divider (IV) or neighboring ii6.

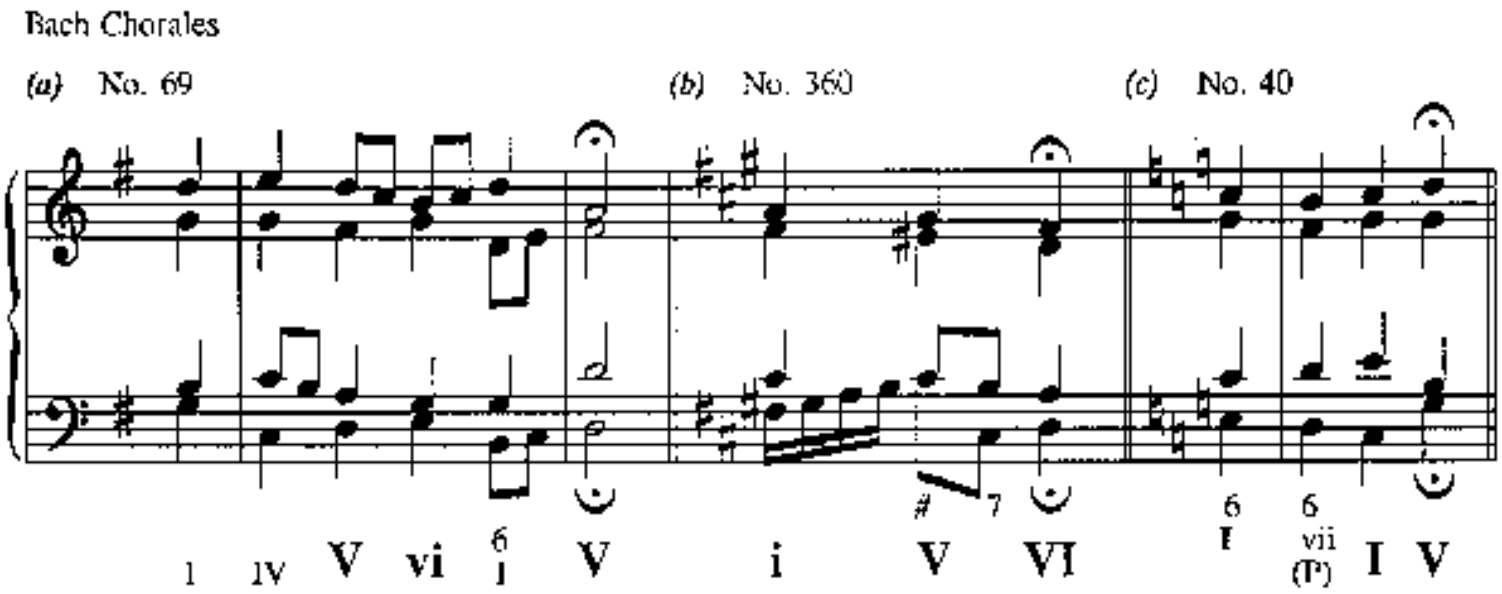
NEIGHBORING CHORD

Frequently, Bach contracts the bass [ ]-[ ]-[ ]-[ ] progression, omitting the lower-fifth divider [ ] (supported by IV or ii6) altogether. The lower-third divider (vi), then, moves directly to V as V's upper neighbor.

The vi can function directly as a neighboring chord to V as in example 8-11c. Here, V7 approaches vi as if approaching I. The upper voices resolve as if to I--only the bass moves to the upper neighbor of [ ] instead. The resulting vi functions as a neighboring chord as it moves immediately back to V and then on to the cadential I.

DECEPTIVE SUBSTITUTE FOR I

The deceptive progression throws us back to the third-divider while mimicking a cadence to I (see example 8-12a).



Ex. 8-12 Deceptive Cadences: V-vi

This progression leaves a potential authentic cadence unresolved: We have not cadenced V-I but V-vi. This propels us forward into the next progression in search of the avoided tonic.

VI in the Minor

In the minor, VI retains its role as third divider and deceptive substitute for I. VI, in the minor, is a major triad, however. The deceptive progression from a major triad on V[insert 8] up a half step to a major triad on VI is startling. For this reason, the deceptive cadence is even more distinctive in the minor than in the major. Compare the sound of the deceptive progression (V-vi) of example 8-12a in the major with the minor example in 8-12b.

THE LEADING TONE TRIAD (vii)

As a diminished triad, dissonant in all positions, vii functions purely as a voice-leading (that is, passing or neighboring) chord. (For a discussion of VII in the *minor,* see chapter 9.) As a result, we seldom see vii in any but the first inversion.

vii

As a dissonant chord with in the bass, vii6 passes between and or and , occasionally acting as an incomplete neighbor to either (see example 8-12c).

vii6 and the Contrapuntal Cadence

The vii^{6} often replaces V in a contrapuntal cadence (see example 7.11c).

Summary

Root-position I, IV, and V form the background of most progressions. In inversions, each of these primary triads serves broader voice-leading roles. I occasionally functions as a fifth divider of IV and V. IV6 functions as a passing chord within a prolongation of V. The inversions of V and V7 function as passing and neighbor chords within an expansion of I. The vii6

serves as a substitute for the passing V .

The ii, iii, and vi function either as fifth dividers or, in inversion, as passing or neighboring chords. The iii and vi function as third dividers as well. In that role they prolong motions to the upper-fifth divider or the lower-fifth divider of I. The vi functions additionally as a deceptive substitute for I.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapter 16.
- Benjamin, Thomas, Michael Horvit, and Robert Nelson. *Techniques and Materials of Tonal Music.* Belmont, CA: Wadsworth, 1992. Part II, Sections 9-14.
- Christ, William, et al. *Materials and Structure of Music*. 3d ed. Vol. I. Englewood Cliffs, NJ: Prentice-Hall, 1980. Chapters 15-19.
- Jonas, Oswald. *Introduction to the Theory of Heinrich Schenker*. Translated and edited by John Rothgeb. New York: Longman, 1982. Chapter 4.
- Kostka, Stefan, and Dorothy Payne. *Tonal Harmony*. 2d ed. New York: Alfred A. Knopf, 1989. Chapters 6-9.
- Ottman, Robert W. *Elementary Harmony*. 4th ed. Englewood Cliffs, NJ: Prentice-Hall, 1989. Chapters 4-11.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapters 5-13.
- Salzer, Felix. *Structural Hearing*. New York: Dover, 1962. Chapters 4-7.

top | bottom | next chapter | previous chapter

Tonality

The pitch organization of a musical work is its tonality. *A tonality based on the major/minor system described below is one type of tonality. There are many others. Yet in the West, the major/minor system (or "Common-Practice Tonality") is so prevalent that we refer to it simply as* the *tonal system or, more formally,* functional tonality. *(We will discover what is "functional" about it in later chapters.)*

COLLECTIONS, SCALES, & MODES

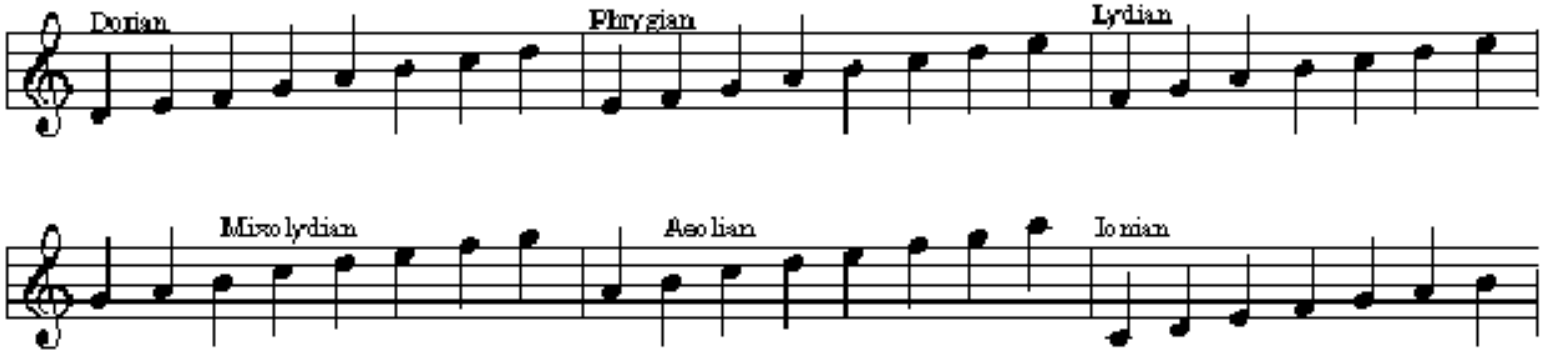
We distinguish among three levels of pitch class organization: *collections*, *modes*, and *scales*. Each reflects an increasingly complex level of organization.

Collections

An unordered group of pitch classes in which each member pitch class is an *equal* member is called a *collection*. For example, we often refer to the twelve pitch classes that span the octave as the "chromatic scale." This is *not* a scale, however, but a collection. Why? Because we have not ordered it. Every member is an equal member. We can begin on any pitch class and end on any pitch class without changing the "scale." Without some hierarchical organization a group of pitch classes cannot be a scale, only a collection.

Modes

Consider the white keys of the piano. When we think of them merely as a group of keys associated by color, we think of them as a *collection*. However, when we think of them as arranged from low to high with a definite beginning and ending point, we think of them as a *mode*. The ancient Church modes are of this type.



Each of the Church modes represents a different ordering of the same collection, the white keys.

Scales

A *scale*, on the other hand, is a hierarchical ordering of a pitch-class collection. As a result, each member pitch class has a unique position within that scale. We call the individual pitch classes of a scale *scale degrees*.

In ordering a scale we do more than simply place the pitch classes in order (low to high, high to ow). We give certain pitch classes priority over others. In a C scale, for instance, we "begin" on C--that is, C is the first scale degree. By definition, that gives it priority over all other scale degrees. *Each* scale degree has a similarly unique position within that scale. (You will learn more about these scale degrees and their functions later in the chapter.)

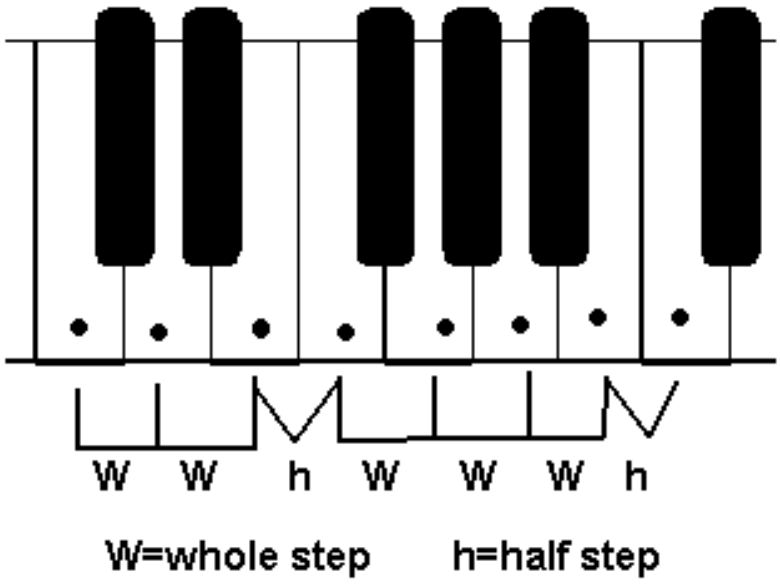
The major or minor scale on which we base a composition is its *key*.

MAJOR KEYS

Structure of the Major Scale

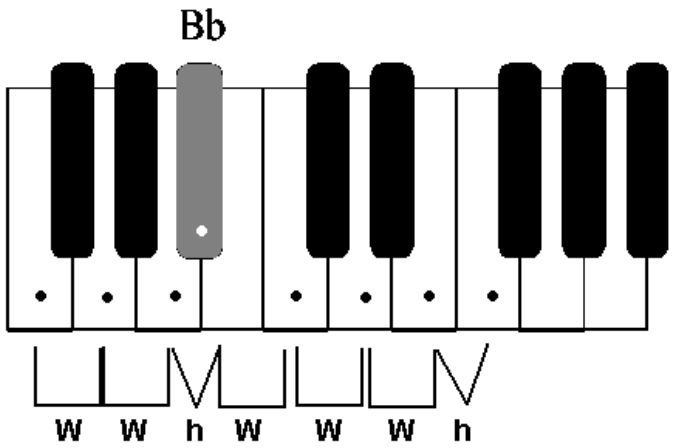
If we begin on C, we call the succession of white keys up to the C an octave higher (or down to the C an octave lower) the *C major scale*. We call the first note of this succession the *tonic* of the scale. A scale has only one tonic. The tonic of this white-key scale (beginning on C) is C.

The sequence of whole and half steps going upward from C to C in the C major scale characterizes *any* major scale. To get this sequence of whole and half steps from the collection of white keys, we *must* begin on C.



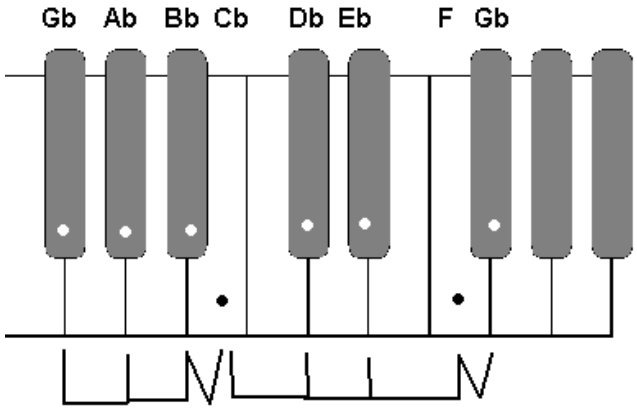
If we began on any other white key, we would have some other sequence of intervals. Thus, if we want to construct a major scale on any other white key than C, we must replace some white keys with black keys. In this

way we get the correct sequence of whole and half steps. For instance, the F major scale requires that B-flat replace B.



F is the tonic of this scale. It occupies the same position within the sequence of intervals that makes up the major scale as C did in example 3-2.

We can build the major scale on black keys as well. Notice that, although the pitch classes differ, the intervals above the tonic of each of these major keys are in the same order.



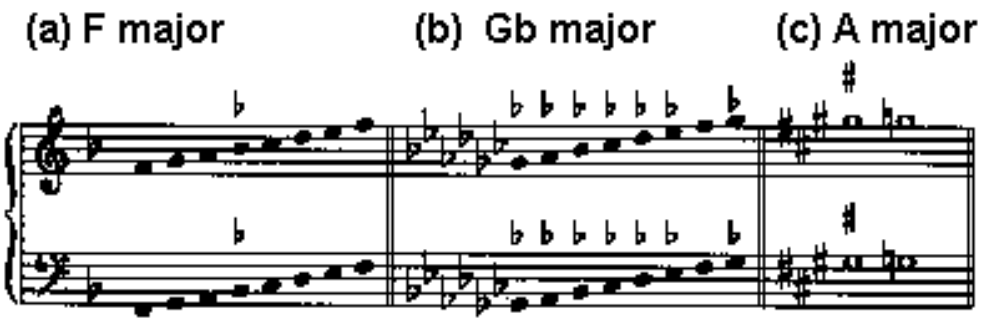
In every scale, whether major or minor (see below) and no matter where it begins, each letter name is represented exactly once. In the G-flat major scale above, we might inadvertently spell the D-flat as C-sharp. (A glance at the keyboard shows that we use the same black key for either D-lat or C-sharp.) However, if we use the C-sharp spelling, two versions of C result--that is, two versions of the fourth scale degree. We have no D, no *fifth* scale degree, of any sort. This will never be the case; we will always represent each letter name (in some form or another) exactly once.

Rule: *In every scale, each scale degree must have a unique letter name.*

Key Signatures

When the key requires that certain scale degrees be flatted or sharped, we place the proper symbol directly after

the clef in a space or on a line given the note of that name. This sharp or flat will then affect all notes of the same pitch class that follow. If, for instance, a composition is in the key of F major (that is, it will use the pitch classes of the F major scale for its tonal material), all B's are flatted since a B-flat is necessary to create the F major scale. We call these universal flats or sharps placed after the clef a *key signature*. Example 3-5a gives the key signature for F major.



The key of G-flat major requires, for instance, that we flat all G's, as in example 3-5b.

SHARP KEYS

The key signature in example 3-5c, above, has three sharps. The last sharp farthest to the right is G-sharp. A minor second above G-sharp is A, the major tonic of this key signature.
Rule: Given a major key with a key signature in sharps, *the pitch class a minor second above the last sharp is the tonic.*

FLAT KEYS

The key signature in example 3-5b, above, has six flats. The next-to-last flat is G-flat, the tonic of this major key.
Rule: Given a major key with a key signature in flats, *the second-to-last flat in the key signature gives the pitch class of the tonic.* (F major, with one flat, is the single exception to this rule. See example 3-5a.)

OVERRIDING THE KEY SIGNATURE

We can override a key signature by using accidentals. For example, the key signature for A major requires that we sharp all G's. We can make the second G of example 3-5c a G-natural, however, simpy by providing the natural sign. As a rule, accidentals last for the entire measure unless canceled by another accidental. In the following measure, however, the key signature reasserts itself. An accidental attached to the first of two tied notes affects the second as well.

See Appendix H for a table of key signatures.

Scale Degrees

We call the successive pitch classes of a scale *scale degrees* and refer to them by number. A caret (^) above the number marks it as a scale degree. In the C major scale in example 3-2, C is the first scale degree (1^). D is the

second scale degree (2^), E the third (3^), and so on through B, the seventh scale degree (7^). We call the next pitch, C, the first scale degree (1^) once again.

Scale degrees attach to pitch classes, not pitches. Therefore, there is no "eighth" scale degree.

In addition to a number, each scale degree has a name that reflects its function.

- Tonic (1^)
- Supertonic (2^)
- Mediant (3^)
- Subdominant (4^)
- Dominant (5^)
- Submediant (6^)
- Leading tone (7^)

THE PRINCIPAL SCALE DEGREES

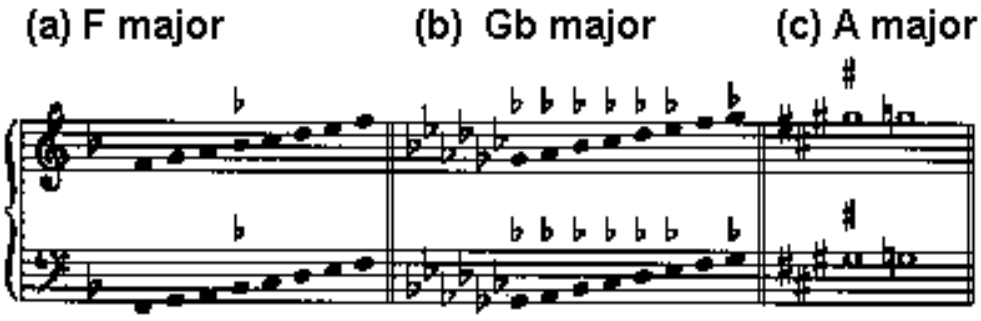
The tonic (1^), mediant (3^), and dominant (5^) are the principal scale degrees. These three scale degrees form a triad whose root is the tonic.

DEPENDENT SCALE DEGREES

All the other scale degrees are dependent. They function in relation to the stable scale degrees 1^, 3^, and 5^ either as *passing notes* or as *neighboring notes*.

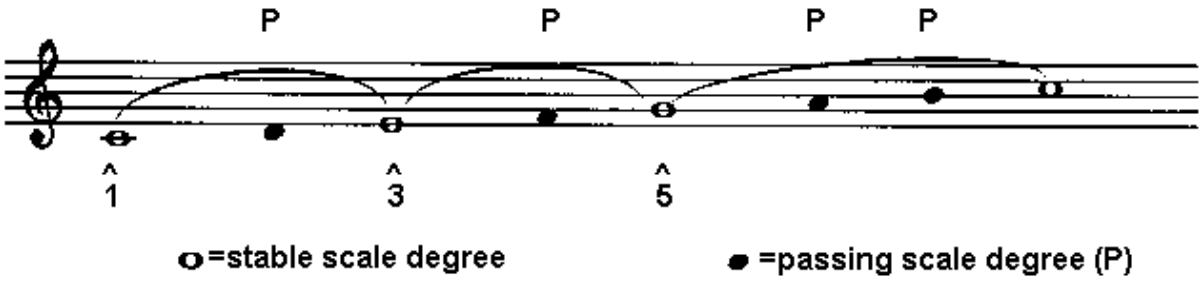
Passing Notes. When two stable scale degrees are a third apart, that scale degree which separates them sometimes appears as a *passing note*. A melody can pass from one stable degree through this unstable degree to the next stable degree.

Most passing notes connect stable degrees a third apart. Occasionally, however, a pair of passing notes may span the perfect fourth from 5^ up to 1^.



Neighboring Notes. When we repeat a single stable note, we can embellish that repetition with a *neighboring note*. A neighboring note (or, simply, *neighbor note*) must be adjacent to (that is, a step away from) the principal scale degree. A repeated principal scale degree can be embellished with either an *upper neighbor*

note or a *lower neighbor note*.

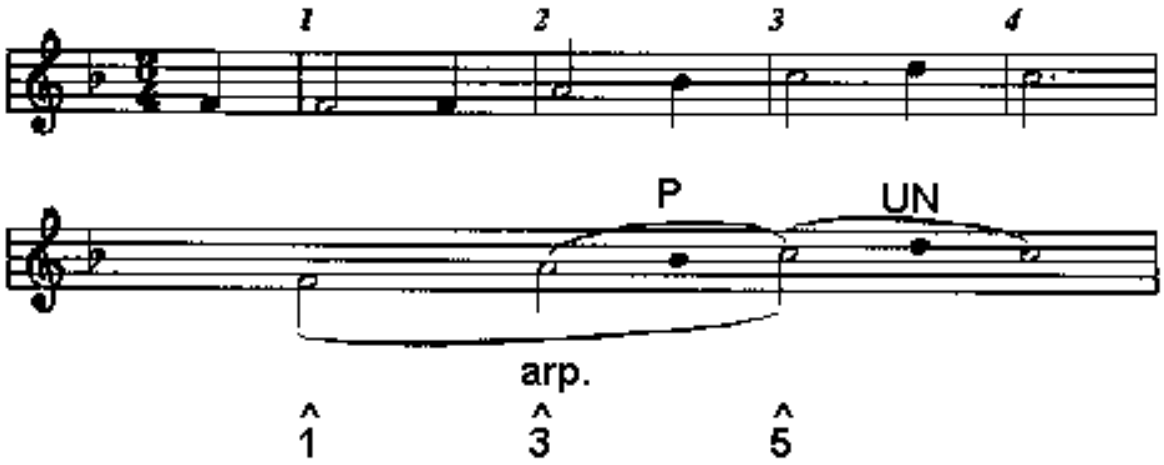


SCALE DEGREES IN MELODIES

We create tonal melodies by *prolonging* stable scale degrees in time. We do this in two stages--unfolding and embellishing.

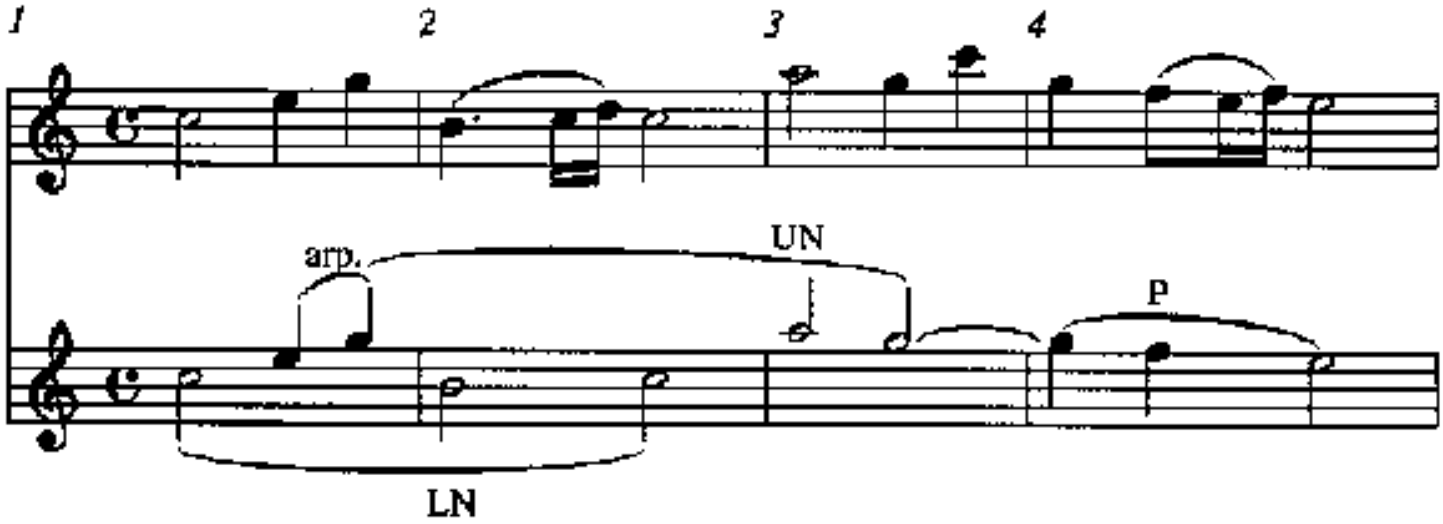
Unfolding. First, we can *unfold* a scale degree in time in two ways. We can prolong a stable scale degree by simply repeating or *rearticulating* it. We can prolong two or more stable scale degrees in time by moving from one stable scale degree to another. We call this process *arpeggiation.*

Embellishing. We can embellish a rearticulated stable scale degree with a neighbor note. We can embellish an arpeggiation with one (or more) passing notes. The introduction of such dissonant (unstable) notes makes dramatic the unfolding of the stable degrees. Simple tunes illustrate this principle directly.



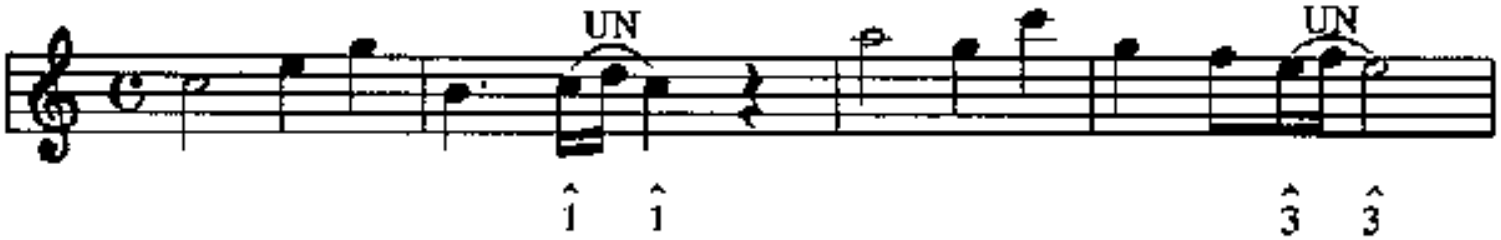
Both a passing note and a neighbor note embellish the *arpeggiation* 1^-3^-5^. The *passing note* fills in the 3^-5^ arpeggiation (measures 2-3) and an upper neighbor note prolongs the *rearticulation* of 5^ (measures 3-4).

As the unfolding and embellishment of the principal degrees become more complex, so do the melodies that result.



Here the initial arpeggiation of 1^, 3^, and 5^ divides into two voices as shown on the lower staff. The bottom voice (shown with downward stems) rearticulates the initial 1^ in measure 2, but first embellishes that rearticulation with a lower neighbor (7^, measure 2). The top voice rearticulates the 5^ of measure 1in measure 3, but first embellishes that rearticulation with an upper neighbor (6^) in measure 3. It arpeggiates down to 3^ in measure 4, embellishing that arpeggiation with a passing note (4^).

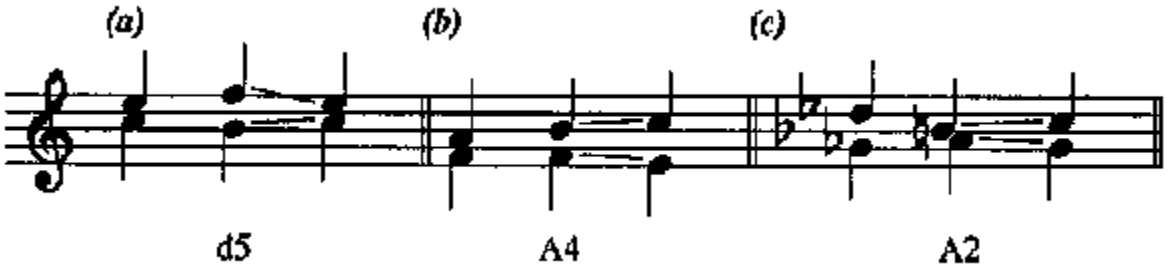
The sixteenth notes of measures 2 and 4 create, at another level, rearticulations of 1^ and 3^. An upper neighbor embellishes each (see example 3-10).



Consonant Support. Passing and neighboring notes can be stabilized if they are made consonant. We do this by providing them with *consonant support*. (Such support involves harmonic concerns discussed in later chapters.) Once these notes are stabilized, we can treat these formerly dependent scale degrees as if they were stable, embellishing them in turn.

ACTIVE INTERVALS

All dissonances are active, that is, unstable. Whether they are intervals or chords, all dissonances require *resolution*--an explanation in terms of consonance. Certain augmented and diminished dissonances play an important role in functional tonality. As a rule, diminished intervals, resolve inwards. As a rule, augmented intervals resolve outwards.



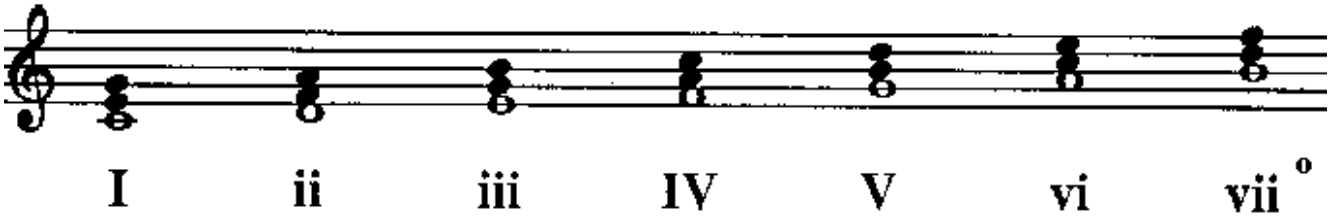
- **Diminished Fifth.** The naturally occurring diminished fifth (from 7^ up to 4^) resolves inwards with 7^ resolving up to 1^ and 4^ resolving down to 3^ (see example 3-11a).

- **Augmented Fourth.** The inversion of that interval (the augmented fourth from 4^ up to 7^) resolves outwards, with 7^ resolving up to 1^ and 4^ resolving down to 3^ (see example 3-11b).

- **Augmented Second.** The augmented second that arises in the minor (see "Harmonic Minor," below) between 6^ and raised 7^ also resolves to the outside, with 7^ resolving up to 1^, and 6^ resolving down to 5^ (see example 3-11c).

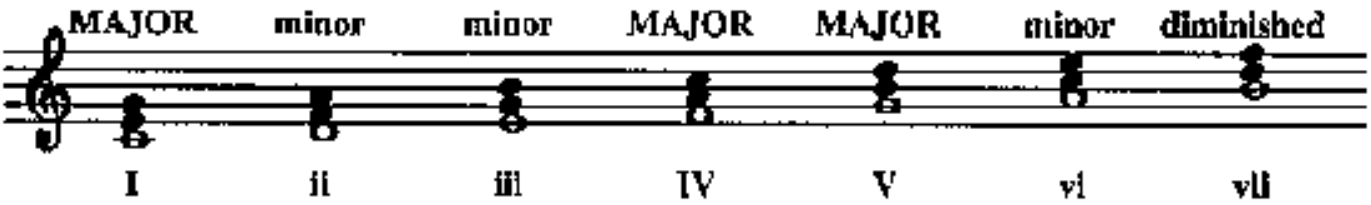
SCALE DEGREE TRIADS

As we have seen, the three primary scale degrees form a triad, with 1^ as the root of that triad, 3^ the third, and 5^ the fifth. A triad can be formed on any scale degree with that scale degree as the root. We name a triad after its root and we abbreviate that name with a roman numeral tha corresponds to the scale degree number of its root. In C major, then, the triad 1^-3^-5^ is the *tonic triad* or, simply, *I*. The triad built upon the second scale degree (2^-4^-6^) is the *supertonic triad* or *ii* (see below).



The Qualities of Scale-Degree Triads

In the major mode, the tonic triad (or *I*) is a major triad, as are the triads built upon *IV* and *V*. On the other hand, *ii, iii, and vi* are minor triads. We suggest the quality of a triad by using upper-case roman numerals for major and augmented triads and lower-case roman numerals for minor and diminished triads. However, this usage (illustrated in example 3-12) is not standard. We will often see upper-case roman numerals used for *all* scale degree triads regardless of their qualities.



Scale-degree triads have the same quality in every major scale. Thus the mediant triad (iii) is minor in every major key, the leading-tone triad (vii) is diminished in every major key, and so forth.

Appendix I lists triad qualities in both major and minor.

Inversions

A triad can be arranged in one of three possible vertical positions. We can place the root at the bottom, the third at the bottom, or the fifth at the bottom. When we notate a triad so that the third or the fifth of the triad is the lowest note, that triad is *inverted*. When the root is the lowest note, the triad is in *root position*. When the third is the lowest note, the triad is in *first inversion*. When the fifth is the lowest note, the triad is in *second inversion*.

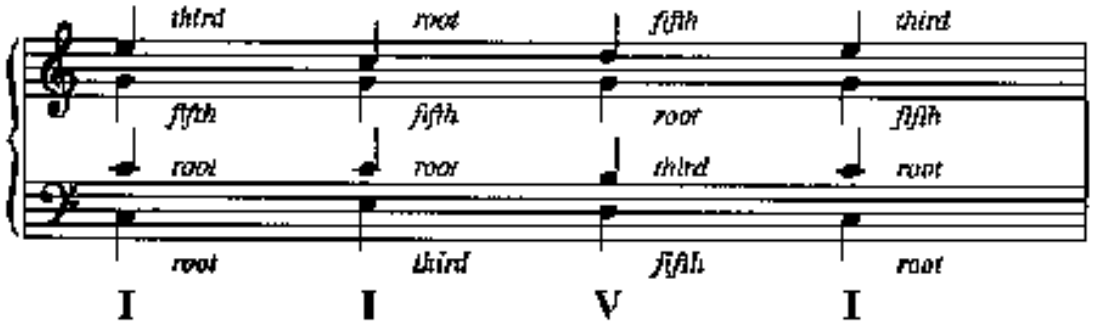
Figured Bass

A triad's position depends entirely on which member of the triad is the lowest note. The lowest-*sounding* note is the *bass*. By providing a bass note and designating a position, we define a triad. Seventeenth-century musicians developed a system for notating the position of triads called *figured bass*.

THE BASS

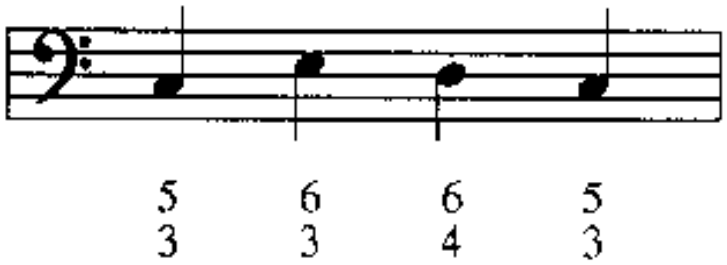
The *root* of a triad and the *bass* of a triad are not necessarily the same note, but can be two separate things. *Only in root position is the root of the triad the bass as well.* In first inversion, the third (as the lowest note) is the bass; in second inversion, the fifth is the bass.

In example 3-14, the bass of the first triad is the root--that is, the first triad is in *root position*. The bass of the second triad is that triad's third; the second triad is in *first inversion.* The bass of the third triad is that triad's fifth; the third triad is in *second inversion.* The fourth triad is again in root position.



THE FIGURES

Example 3-15 portrays the same succession of triads and positions as in example 3-14. Here we show the positions by arabic numerals below a single line of notes. That line of notes is the bass. The figures tell us what triads to build on those bass notes.



The arabic numerals show diatonic intervals above the bass. Thus, if a bass note is the lowest note of a first inversion triad (that is, if the third of that triad is in the bass) then the root is the pitch class a sixth above it. Similarly, the fifth is the pitch class a third above. The figures we need, then, are 6/3. If the bass is the fifth of a (second inversion) triad, then we need the figures 6/4. (The root is a fourth above the bass and the third a sixth above.) For root position, we need 5/3.

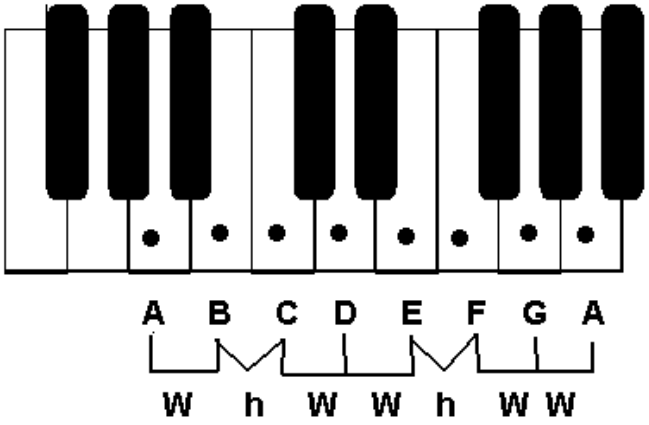
Appendix J explains figured bass practice in more detail.

MINOR SCALES

The minor scale is complex. The basic structure, like that of the major scale, is unambiguous. How composers use the minor scale is not. The major scale is the basic structure of the tonal system. The minor scale works within this system only to the degree that it mimics the major.

Structure

The minor scale is a series of seven pitch classes, separated by seconds, that span an octave. Half steps fall between scale degrees 2^-3^ and 5^-6^. The only minor scale that occurs on the white keys of the keyboard is the scale from A to A.



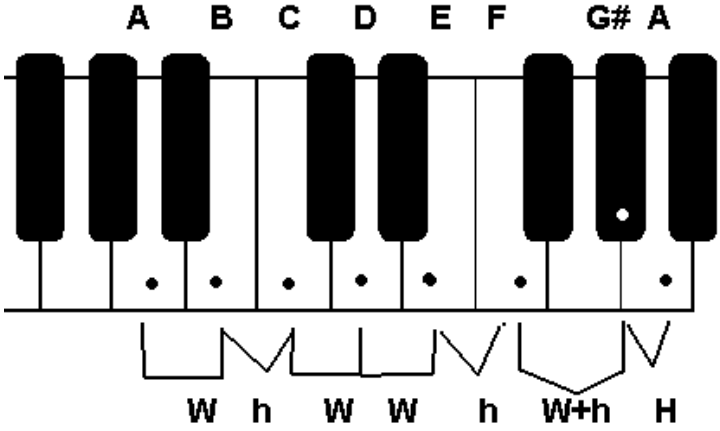
Note that the A minor scale is nothing more than the notes of the C major scale rotated to begin on A rather than C. That is, A, the sixth scale degree (6^) in the C major scale, becomes the first scale degree (1^) in the A minor scale. This seemingly trivial distinction between C major and A minor in fact has vast consequences.

Natural Minor

We call the original, unaltered version of a minor key the *natural* or *pure* minor. But, from one point of view, the adjective *natural* is misleading. The natural minor does not work "naturally." We must bend and shape the minor in order to make it behave tonally.

Harmonic Minor

For example, in minor, the distance between 7^ and 1^ is a whole step. In major, however, the same distance is a half step. As you will see below, this half-step distance between 7^ and 1^ is essential to the tonal system. (In fact, we refer to the seventh scale degree as the "leading tone" because of its tendency to leap this tiny gap to the first scale degree.) Now, to create the necessary half step between 7^ and 1^ in A minor, we must raise 7^, that is, change G to G-sharp. This reestablishes the essential half step between 7^ and 1^. We call this altered version of the minor the *harmonic minor*.

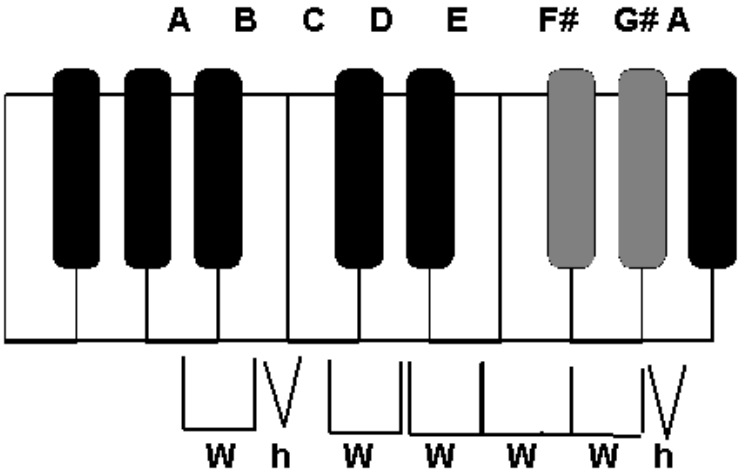


Melodic Minor

Though the distance between raised 7^ and 1^ is now a half step, the interval between 6^ and raised 7^ is now

the equivalent of a whole step *plus* a half step--an *augmented second*. Thus, motion by "step" between adjacent sale degrees (between 6^ and raised 7^) sounds rather like a skip. That is, the expected distance of a half or whole step between adjacent scale degrees becomes that of a whole *plus* a half step. The interval sounds more familiar to us as a third and so we hear it more like a skip than a step.

To reestablish the conventional distance between 6^ and 7^ we must now adjust 6^ by raising *it.* (That is, F becomes F-sharp, or raised 6^.) Since meloic considerations cause this change, we call this version of the minor the *melodic minor*.



When *descending* from 1^ in the minor, we do not need a leading tone and do not raise 7^. With no raised 7^, we need no raised 6^. As a result, we use the "pure" or "natural" form of the minor when descending from 1^.

Some musicians speak of the melodic minor as if it had two forms, ascending and descending. The so-called ascending melodic minor requires raised 6^ and 7^. This is the melodic form proper. The so-called descending melodic minor is nothing more than the pure or natural minor. It requires no alteration.

Minor Keys

All three of these versions of A minor (natural, harmonic, and melodic) are just that-- *versions* of A minor. A work in A minor will move from one of these variants to another, according to varying harmonic or melodic contexts, but it remains *in A minor*.

Affect of the Minor

As we have seen, the minor is much more complex than the major. This is why major keys sometimes seem "happy" or "bright," and minor keys "sad" or "dark." These descriptions are metaphors for a systemic relationship. They arise from a subconscious correlation between musical structure and familiar psychological states. We call the subjective emotional or psychological state created by music its *affect*. Affect is, for the most part, culturally determined. It varies from nation to nation and age to age.

THE RELATIONSHIP BETWEEN MAJOR AND MINOR KEYS

Major and minor scales use the same key signatures and are built on the same collection of seven pitch classes. However, the major and minor scales that share the same key signature do *not* share the same tonic. Conversely, the major and minor keys that share the same tonic do *not* share the same key signatures.

The Relative Relation

The minor key that shares the same *key signature* with a major key is that major key's *relative minor*. Thus, A minor is the relative minor of C major. Conversely, C major is the *relative major* of A minor.
Rule: The sixth scae degree of the major is the tonic of its relative minor. The third scale degree of the minor is the tonic of its relative major. Remember: *The key signature remains the same, but the tonic changes.*

The Parallel Relationship

We call the minor key that shares the same *tonic* with a major key that major key's *parallel minor*. G minor is the parallel minor of G major. Conversely, G major is the *parallel major* of G minor.
Rule: The key signature of the parallel minor is the key signature of that minor key's relative major. Remember: *The tonic remains the same, but the key signature changes.*

For more about the relationship between major and minor, see appendix K.

SUMMARY

A collection is an unordered group of pitch classes. In a collection, all pitch classes that are members of the collection are equal members. A scale is an ordering of pitch classes such that each pitch class has a unique position within that ordering. We call the pitch class members of a scale scale degrees. *In a scale, one and only one pitch class is appointed as the first (second, third, etc.) scale degree.*

Scale degrees are either stable or unstable. The principal (stable) scale degrees are 1^, 3^, and 5^. All other scale degrees are dependent. They function as passing notes or neighbor notes in relation to these principal scale degrees. We can momentarily stabilize dependent scale degrees by consonant support.

Each scale degree is the potential root of a triad. We label scale-degree triads with roman numerals that correspond to the root scale degree of that triad.

The minor is complex; its structure changes with the musical context. All these changes, however, reflect the primacy of the major.

For Additional Study

Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading.* 2 vols. New York: Harcourt Brace Jovanovich, 1979. Chapter 1-2.

Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception.* 5th ed. New York: Harper & Row, 1988. Chapter 1.

Fux, Johann Joseph. *The Study of Counterpoint from Johann Fux's "Gradus ad Parnassum."* Translated and edited by Alfred Mann. New York: Norton, 1965. Chapter 1.

Jonas, Oswald. *Introduction to the Theory of Heinrich Schenker.* Translated and edited by John Rothgeb. New York: Longman, 1982. Chapter 1-2.

Mitchell, William J. *Elementary Harmony.* 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1948. Chapters 1-2.

Piston, Walter. *Harmony.* 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapters 1-2.

Salzer, Felix. *Structural Hearing.* New York: Dover, 1962. Chapter 1.

Schenker, Heinrich. *Harmony.* Edited by Oswald Jonas. Translated by Elisabeth Mann Borgese. Chicago: University of Chicago Press, 1954. Division I, sections I-III.

Schoenberg, Arnold. *Theory of Harmony.* Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Chapters 1-5.

Westergaard, Peter. *An Introduction to Tonal Theory.* New York: Norton, 1975. Chapters 1-3.

Williams, Edgar. *Harmony and Voice Leading.* New York: HarperCollins, 1992. Chapter 3.

top | bottom | next chapter | previous chapter

Contrapuntal Progressions

The $\frac{5}{3}$ techniques discussed so far allow us to support dissonant passing- and neighboring-note prolongations in the upper voice with root-position triads. This results in a bass line that moves mainly by skip. The inversions of a triad, especially second inversion, are less stable than its root position. For this reason, inversions provide ideal support for step wise passing and neighbor motions in the bass. Inversions also provide us with a variety of cadential effects, allowing us to avoid premature or unwanted cadences.

Progressions that involve inversions are known as contrapuntal progressions--*that is, progressions that result from linear embellishment. The inversions that create these passing linear embellishments are termed passing and neighboring harmonies, by analogy with passing and neighboring notes. The harmonies that result from such passing motions are called* voice-leading harmonies *because stepwise motion place voice-leading emphasis on the bass.*

VOICE LEADING CONSIDERATIONS

Contrapuntal progressions make no sense apart from good part writing since they arise from voice leading necessity. Therefore, all voices should move as strongly as possible. To effect this, we suspend the doubling rules (discussed in Chapter 5) when dealing with contrapuntal progressions.

When reviewing the examples, you should remember that figured bass is a kind of short hand. When a roman numeral has *no* figures it is in $\frac{5}{3}$or root position. When the figure is simply 6, it is in $\frac{6}{3}$ or first inversion. (See appendix J for a review of figured-bass notation.)

$\frac{6}{3}$ TECHNIQUE

When we place the third of a triad in the bass, that triad is in first inversion. In that position, the pitch class of the root stands a sixth above the bass, and the fifth stands a third above the bass. Therefore, the

figure $\frac{6}{3}$ represents the first-inversion triad.

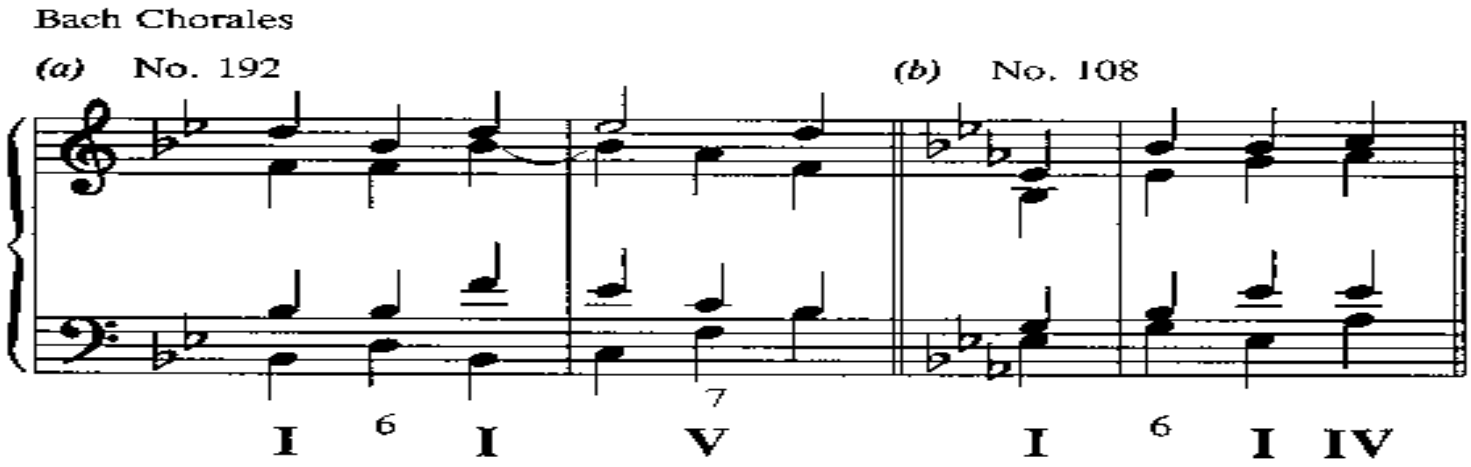
The $\frac{6}{3}$ inversion of a consonant triad is itself consoant. However, with the third rather than the root in the bass, it is unstable. Being both consonant and unstable, first inversion triads embellish stable $\frac{5}{3}$ progressions.

Bass Arpeggiation

We can prolong a bass motion by unfolding a root position triad to first inversion.

BASS ARPEGGIATION

A root-position triad can prolong itself by unfolding to $\frac{6}{3}$ and then back again.



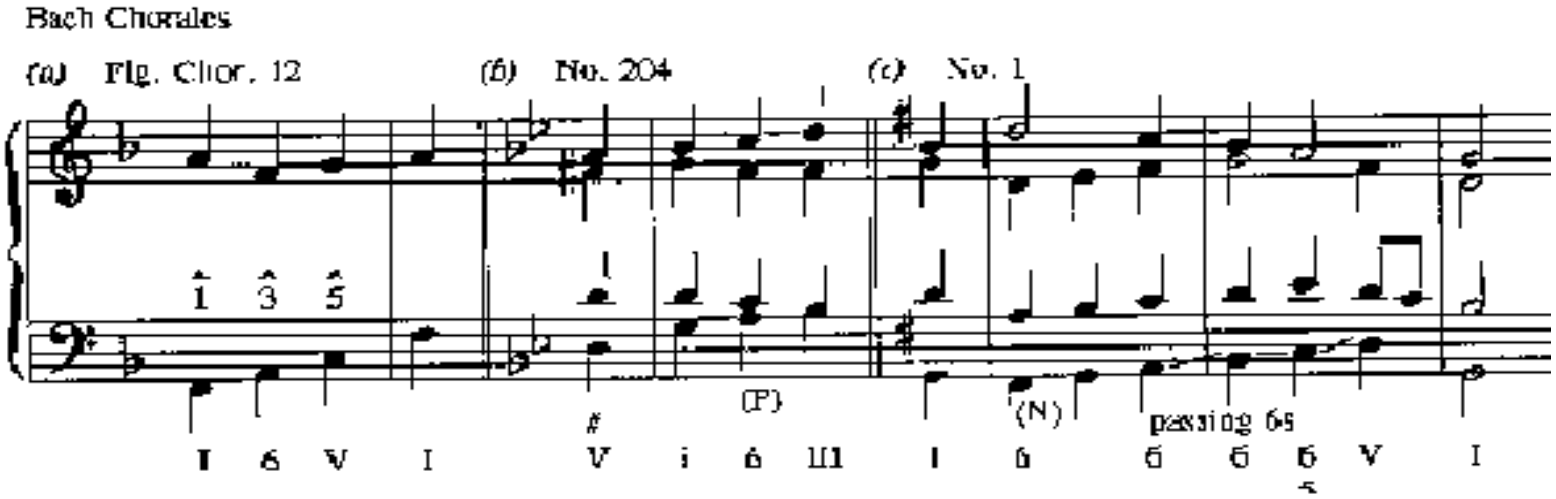
Ex. 7-1--Bass Arpeggiation: $\frac{5}{3}$-$\frac{6}{3}$

In example 7-1a, Bach prolongs a root position I-V by allowing bass $\hat{1}$ to arpeggiate up to $\hat{3}$ and then back again. There results a I$\frac{5}{3}$-I$\frac{6}{3}$-I$\frac{5}{3}$ (or, in figured bass short hand, I-I6-I) progression. Similarly, in example 7-1b, Bach prolongs a I-IV progression by unfolding I to its first inversion and then back again.

$\frac{6}{3}$ AS THIRD DIVIDER

A $\frac{6}{3}$ can substitute for a $\frac{5}{3}$ as a third divider. In example 7-2a, the bass moves from root-position I to root position V. Bach breaks the bass $\hat{1}$-$\hat{5}$ (F-C) leap with an arpeggiation through $\hat{3}$ (A). Since this note

prolongs the motion to $\hat{5}$, Bach supports it with a passing $\frac{6}{3}$ (in this case, I6).



Ex. 7-2--$\frac{6}{3}$ Usage

Passing $\frac{6}{3}$s

A first inversion chord provides ideal support for a bass passing note. In example 7-2b, root-position i (G minor) moves to root-position III (B-flat). Bach fills in the resulting $\hat{1}$-$\hat{3}$ bass with a passing $\hat{2}$. A $\frac{6}{3}$ (VII6) provides support for this bass passing note. Since it is in first inversion and is less stable than the two root-position triads that surround it, this $\frac{6}{3}$ has a passing character.

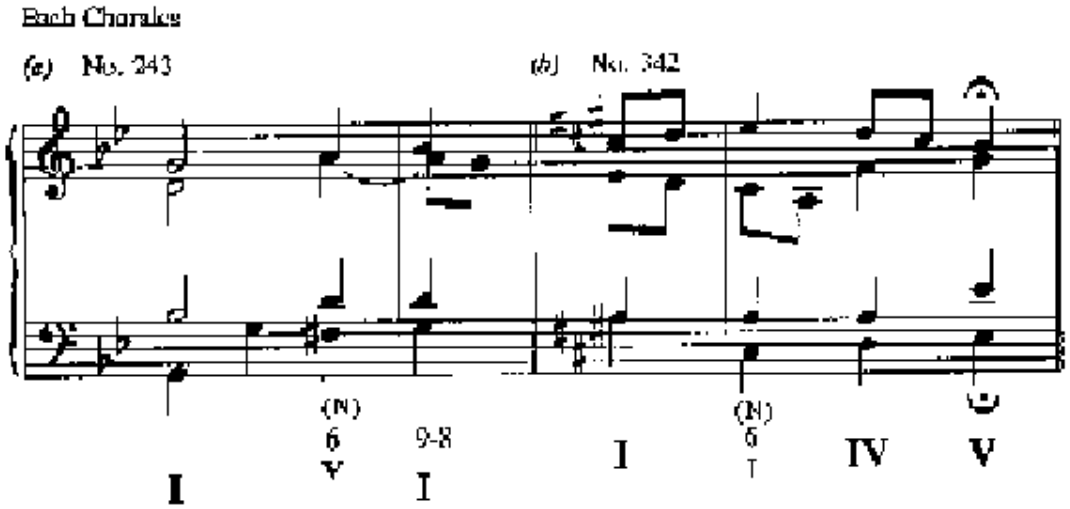
We often see strings of passing $\frac{6}{3}$'s in parallel. In example 7-2c, Bach supports a linear progression from bass $\hat{1}$ (G) to $\hat{5}$ (D) with parallel passing $\frac{6}{3}$s. This creates a series of passing chords that span the fifth from root-position I to root-position V.

Neighbor $\frac{6}{3}$s

Before the bass of example 7-2c begins its ascent to $\hat{5}$, it prolongs its root position with a lower-neighbor note (G-F-sharp-G or $\hat{1}$-$\hat{7}$-$\hat{1}$). Bach supports this neighbor with another $\frac{6}{3}$, creating a neighboring chord above the neighbor-note F-sharp.

BASS NEIGHBOR NOTE

In this way, $\frac{6}{3}$s frequently support neighbor note prolongations in the bass. Example 7-3a. provides another example of a bass neighbor supported by a neighboring $\frac{6}{3}$. The bass prolongation of $\hat{1}$ ($\hat{1}$-[insert 7]$\hat{7}$-$\hat{1}$) receives the same $\frac{6}{3}$ support as in example 7-2c.



Ex. 7-3--Neighbor $\frac{6}{3}$s

INCOMPLETE NEIGHBOR NOTES

When a voice leaps from one note to the neighbor of another, we consider this neighbor note *incomplete*. "Incomplete" in this case, does not refer to the chord above the incomplete neighbor; it can contain all its pitches. We frequently see incomplete neighbors in the bass when it is progressing between two $\frac{5}{3}$s. If the bass of the first $\frac{5}{3}$ leaps *down* to the second $\frac{5}{3}$, we can embellish that leap with an incomplete lower neighbor. We support this neighbor with a $\frac{6}{3}$. In example 7-3b, the bass progresses from $\hat{1}$ (A) to $\hat{4}$ (D, its lower-fifth divider), moving first to the incomplete lower neighbor of $\hat{4}$, $\hat{3}$ (C-sharp). To maintain the clarity of the $\frac{5}{3}$ progression (I-IV) progression, Bach supports the neighboring $\hat{3}$ with a $\frac{6}{3}$.

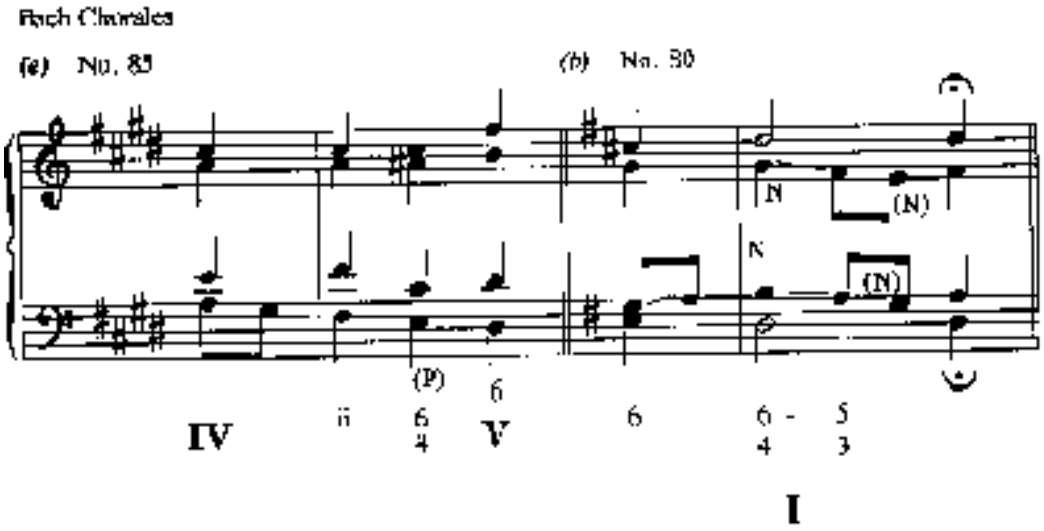
$\frac{6}{4}$ TECHNIQUE

The $\frac{6}{4}$ functions like the $\frac{6}{3}$ but, as a dissonant inversion, has a stronger passing character. In general, $\frac{6}{4}$s either function as dissonant passing chords or result from double neighbor note prolongations in the upper

voices.

Passing $\frac{6}{4}$

We often see $\frac{6}{4}$s support passing note prolongations of a bass arpeggiation. In example 7-4a, Bach fills in the bass of a ii-V6 progression with a passing note. By supporting that passing note with a $\frac{6}{4}$--an inversion more dissonant and unstable than the $\frac{6}{3}$ to which it passes--he creates a passing harmony between ii and V6.



Ex. 7-4--$\frac{6}{4}$ Usage

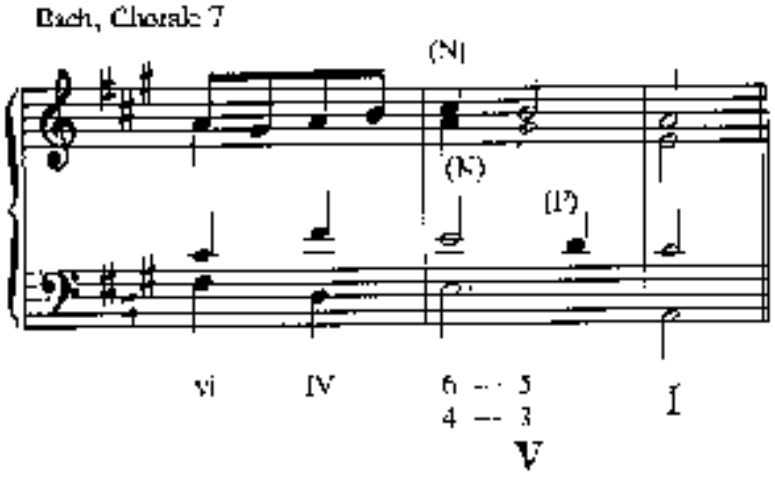
COMMON-NOTE $\frac{6}{4}$

Often $\frac{6}{4}$s arise not from passing motions in the bass but from neighbor note motions in the upper voices. These $\frac{6}{4}$s arise above a repeated bass note. For this reason, they are called common-note $\frac{6}{4}$s.

In example 7-4b, a motion to $\hat{1}$ (D) in the bass receives a supporting I$\frac{5}{3}$ only on the final quarter note. Bach delays the arrival of I by moving $\hat{5}$ (A) and $\hat{3}$ (F-sharp) to their upper neighors. This creates a $\frac{6}{4}$ above $\hat{1}$. As the neighboring $\hat{6}$ moves to $\hat{5}$ and the neighboring $\hat{4}$ to $\hat{3}$, the root-position tonic emerges and the phrase ends.

CADENTIAL $\frac{6}{4}$

The most familiar common-note $\frac{6}{4}$ embellishes the V of an authentic cadence. As the bass reaches $\hat{5}$, the upper voices remain on the upper neighbors of the third and fifth of V. This creates a fleeting $\frac{6}{4}$. However, as the bass repeats $\hat{5}$, these upper neighbors resolve down by step to the third and fifth of V proper.



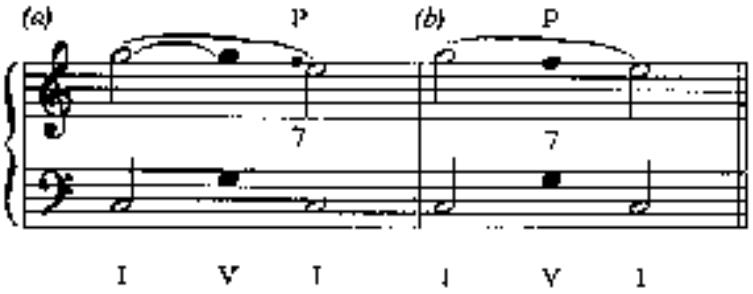
Ex. 7-5--The Cadential $\frac{6}{4}$

In example 7-5 we see a perfect authentic cadence in A major. The bass moves directly to $\hat{5}$, but the soprano and alto move to a $\frac{6}{4}$ position above that $\hat{5}$. These are upper neighbors that delay the arrival of V itself. As each neighbor resolves down to a $\frac{5}{3}$ position, the V is formed and can now complete its motion to I.

Remember: A cadential $\frac{6}{4}$ results from a neighbor note embellishment of V in the upper voices. Therefore, the 6 and 4 above the bass must *act* like neighbors and resolve down by step to the 5 and 3 above bass $\hat{5}$.

THE DOMINANT SEVENTH (V7)

All dissonance has a passing character. It take us from one consonant position to another, enhancing the voice leading. The most common dissonant prolongation of the upper-fifth divider is the passing V8-7. In a perfect authentic cadence, the upper voice that doubles the root of V ($\hat{5}$) naturally descends through a passing note ($\hat{4}$) to the third of I ($\hat{3}$) (see example 7-6a).



Ex. 7-6--Origins of the V7

Origin of the Seventh Chord

The V7 arises when the composer drops the initial $\hat{5}$ (the doubled root of the V) from this passing 8-7 (example 7-6b). We may then move directly to the passing $\hat{4}$. There results a dissonant chord, one that adds a seventh above the root of the V. In general, such chords are known as seventh chords. In particular, we call the V7 a *dominant seventh*. ("Dominant seventh" is another name for a major-minor seventh chord.)

Remember: We cannot separate seventh chords from their voice-leadin origins. A seventh chord takes on the passing character of the dissonance that it incorporates.

Appendix G lists triad and seventh chord types and qualities.

Voice Leading and the Seventh Chord

Three special voice leading considerations govern the V7.

THE SEVENTH

In root position, the seventh (that note a seventh above the root) must resolve down by step. Usually, this resolution is to the third of the succeeding chord.

DOUBLING

Since a seventh chord has four notes, none need be doubled. However, we may omit the fifth of a root-position seventh chord and double the root. This often makes for better voice leading. If we invert the seventh chord, however, we do best to leave the chord complete. *Never double the seventh.*

THE TRITONE

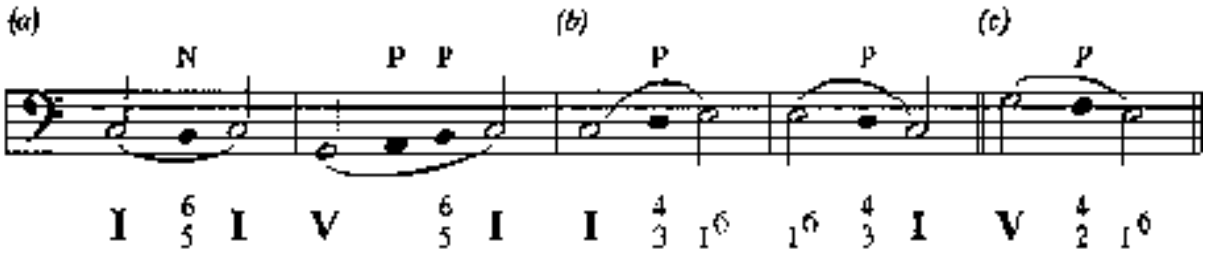
The dissonant tritone formed by the seventh of the V7 ($\hat{4}$) and the third ($\hat{7}$) resolves predictably. The dissonant $\hat{4}$ resolves down to $\hat{3}$ and the leading tone ($\hat{7}$) resolves up to $\hat{1}$.

Inversions of the V7

A seventh chord has three inversions. The third ($\frac{6}{4}$/2, abbreviated $\frac{4}{2}$) holds the seventh in the bass. As a dissonant chord in an unstable position, the passing character of the third inversion is very strong.

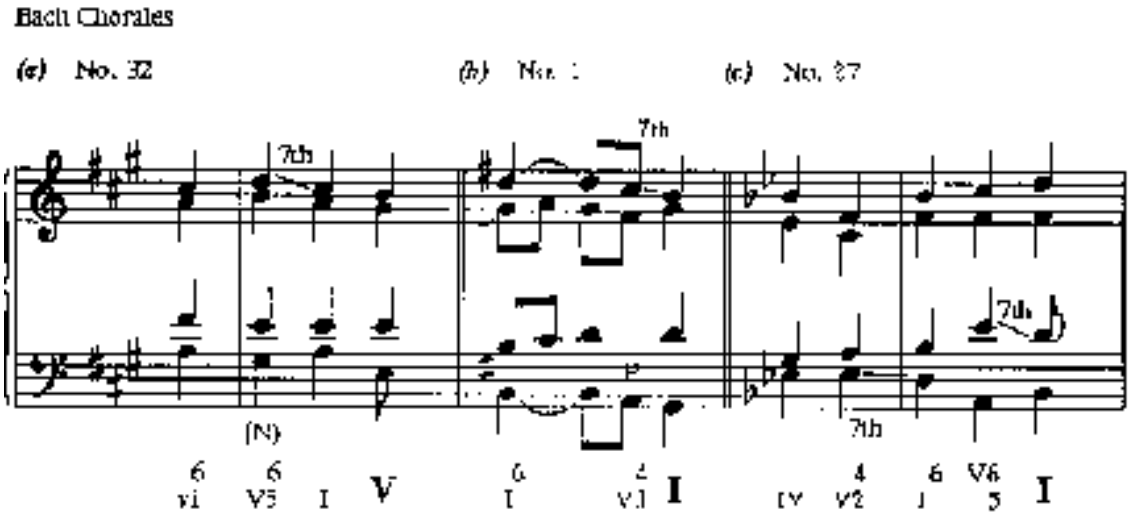
VOICE LEADING

The voice leading function of the inversions of the V7 result from the scale degree in the bass. In the V $\frac{6}{5}$ the $\hat{7}$ in the bass functions as the lower neighbor to $\hat{1}$ (see examples 7-7a and 7-8a). In the V $\frac{4}{3}$, the bass $\hat{2}$ serves as a passing note between $\hat{1}$ and $\hat{3}$. Less frequently it provides an upper neighbor to $\hat{1}$ (see examples 7-7b and 7-8b). The bass $\hat{4}$ acts as upper neighbor to $\hat{3}$ (see examples 7-7c and 7-8c).



Ex. 7-7--Inversions of V7

Remember: the dissonant seventh must complete its passing motion to $\hat{3}$ no matter in what voice it occurs.



Ex. 7-8--Resolution of the Seventh

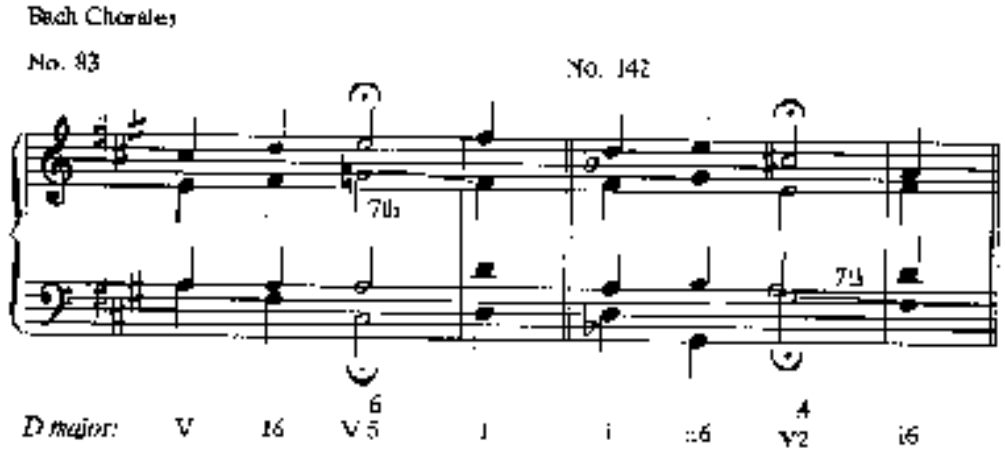
DOUBLING

As rule, neither omit nor double any notes when using the inversions of a V7.

Notice not only that each inversion of V7 in example 7-8 is complete, but also that the seventh always resolves down by step.

V7 in the Cadence

The V7 frequently substitutes for V in the authentic cadence. But because it is dissonant, V7 seldom replaces V in the half cadence. Still, the half cadence to V7 does provide a potent, dramatically inconclusive cadence, especially when used to illustrate a text.



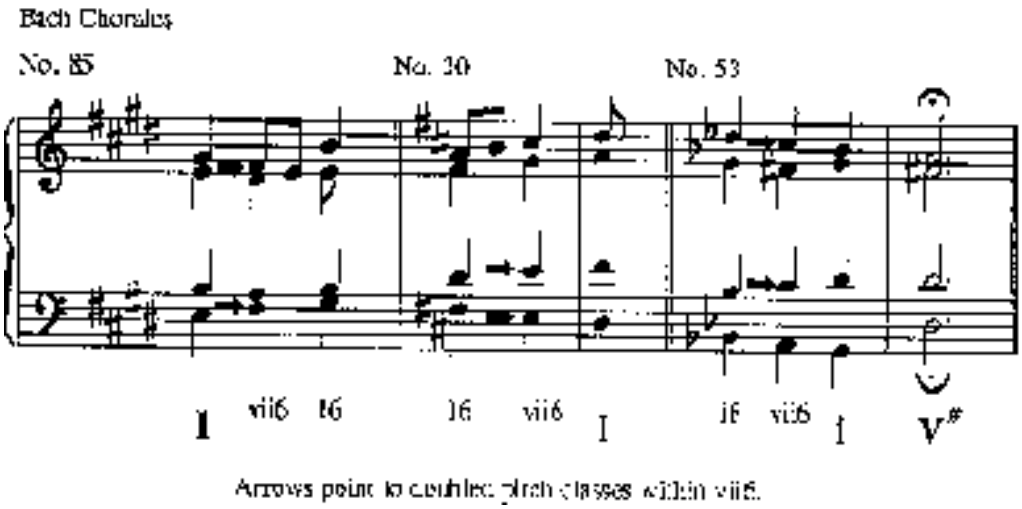
Ex. 7-9--Rare Half Cadences to Inversions of V7

These examples illustrate not merely half cadences to V7, but to inversions of this already dissonant

sonority! The text of Chorale 83 considers Christ's sadness, pain, and death. The half cadence arises on the word *acht* ("take care" or "heed"). The cadence from Chorale 132 occurs on *entr•ckt* ("carried away" or "delivered"). Christ "delivers" the sinner from that pain represented here by the unstable $\frac{4}{2}$. We see the half cadence to V7 frequently in free style.

The V$\frac{4}{3}$ and vii6

The active interval of the V7 (the tritone between $\hat{4}$ and $\hat{7}$) forms the defining fifth of vii. In fact, the leading tone triad (vii) contains all the notes of the V7 save its root ($\hat{5}$). We use vii6 as a substitute for the V$\frac{4}{3}$ when voice leading considerations require that we double some member of the harmony.



Ex. 7-10--vii6 as a Substitute for V $\frac{4}{3}$

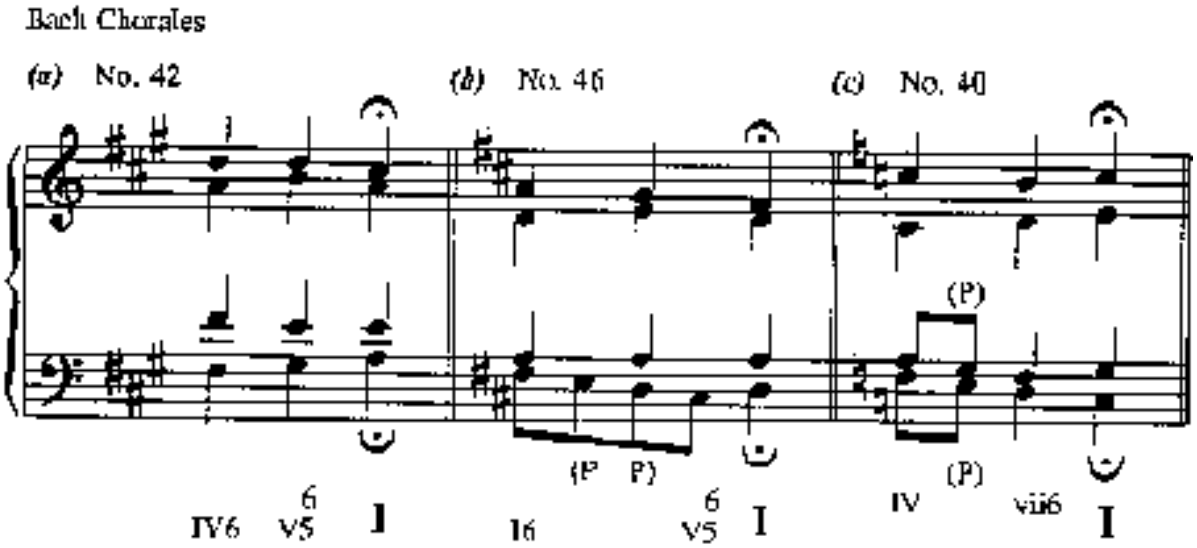
Notice that in each of these examples not only is one note of the vii6 doubled, but also that doubling allows step-wise motion in the doubling voice. **Remember**, however: *Do not double the leading tone in a V, V7 or vii.*

Noncadential V7s

Because of the rhythmic regularity of chorale style, incidental V7-I progressions may, accidentally, sound cadential. To avoid unwanted cadential effects, we should make the voice-leading role of these non-cadential V7s clear by placing them in inversion. The V$\frac{6}{5}$ functions well as a voice leading chord to I without suggesting a premature cadence (see examples 7196>8a and 7-8c, above).

THE CONTRAPUNTAL CADENCE

A cadence in which the bass moves by step rather than by fifth is called a *contrapuntal cadence*. The contrapuntal cadence is useful as a way of ending a phrase on I while also postponing the final perfect authentic close. Most often, contrapuntal cadences use V $\frac{6}{5}$ (see example 7-11a and b).



Ex. 7-11--Contrapuntal Cadences

We seldom see V $\frac{4}{3}$ at a contrapuntal cadence, however, but vii6 instead (see example 7-11c). The doubled bass of the vii6 provides stronger voice leading for the doubling voice.

Summary

We support step-wise passing and neighboring motions in the bass with inversions. The consonant inversion ($\frac{6}{3}$) is the most flexible, functioning either as support for passing and neighboring notes or bass arpeggiations. The dissonant inversions ($\frac{6}{4}$, $\frac{6}{5}$, $\frac{4}{3}$, and $\frac{4}{2}$) function in more restricted (usually stepwise) voice-leading contexts.

We can avoid unwanted cadential effects by using inversions of V7 when moving to I before the cadence. Similarly, contrapuntal cadences allow us to postpone the perfect authentic cadence to a later point.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2 vols. 2d ed. New York: Harcourt Brace Jovanovich, 1989. Chapters 6-13, 15, and 16.
- Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception*. 5th ed. New York: Harper & Row, 1988. Chapter 5.
- Jonas, Oswald. *Introduction to the Theory of Heinrich Schenker*. Translated and edited by John Rothgeb. New York: Longman, 1982. Chapters 3-4.
- Piton, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 6.
- Salzer, Felix. *Structural Hearing*. New York: Dover, 1962. Chapters 5-6.
- Schoenberg, Arnold. *Structural Functions of Harmony*. Rev. ed. Edited by Leonard Stein. New York: Norton, 1969. Chapter 3.
- Schoenberg, Arnold. *Theory of Harmony*. Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Chapters 6-7.
- Westergaard, Peter. *An Introduction to Tonal Theory. New York: Norton, 1975. Chapters 4-6.*
- Williams, Edgar W. *Harmony and Voice Leading.* New York: HarperCollins, 1992. Chapter 6.

top | bottom | next chapter | previous chapter

The Basics of Four-Part Chorale Style

We begin the study of harmony with a four-voiced texture called chorale style. Two goals define this style: independence of voices and definition of tonality.

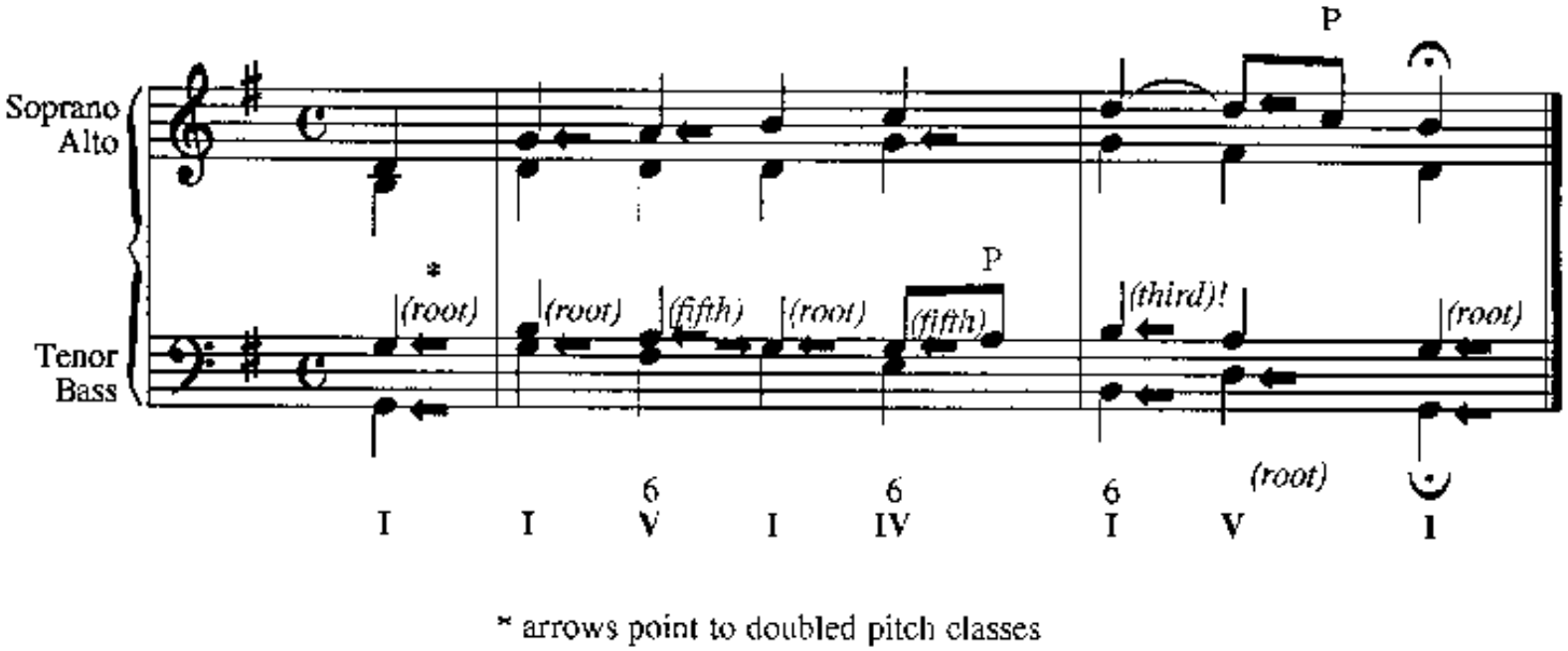
To create music in chorale style, we must control both the horizontal and vertical dimensions of the texture. Voice leading controls the relationship between voices. Rules of thumb concerning doubling and chord voicing shape the vertical disposition of the voices. A variant of chorale style called keyboard style alters both voice-leading and voicing rules to make practical performance by two hands at a keyboard.

THE FOUR VOICES

The study of harmony usually begins with a study of *chorale style*. Although strictly limited in scope, chorale style does provide basic training in the principles that govern a *polyphonic* (that is, many voiced) texture. Those principles, along with the techniques associated with them, are called *voice leading*.

Disposition of the Four Voices

Each part of a four-part texture is called a *voice*. The name and ranges of these voices are derived from the four standardized singing ranges: *soprano*, *alto*, *tenor*, and *bass*. You notate the four voices on a grand staff.



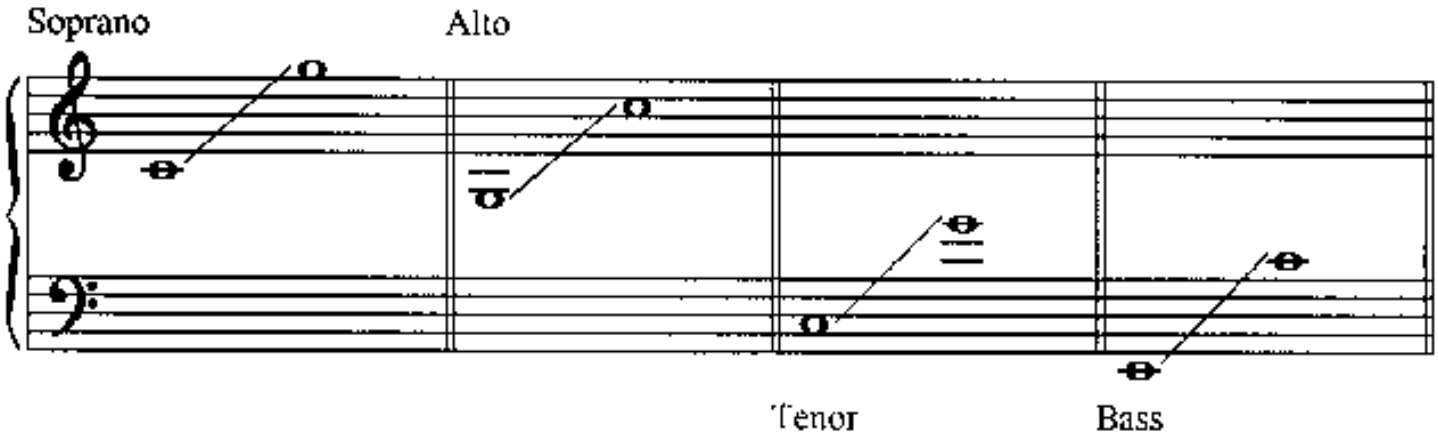
Ex. 5-1--Four Voices in Chorale Style (Bach, Chorale, 293)

We place the soprano and alto on the treble staff with the soprano on top. All soprano stems ascend. All alto stems descend.

This makes the two voices visually distinct. We place the tenor and bass on the bass staff. All tenor stems ascend, and all bass stems descend.

Range of the Four Voices

With the exception noted below (see "Keyboard Style"), the four voices operate within restricted ranges, as shown in example 5-2.



Ex. 5-2--Ranges of the Four Voices

Rhythm

In chorale style, all four voices move in *rhythmic unison, that is, each voice moves at the same time as every other voice. A succession of four-voice chords results.*

CHORD CONSTRUCTION

We use scale-degree triads to form the chords that result from the movement of the four voices.

Complete Triads

The bulk of a four-part texture consists of complete triads. Given a consonant, root-position triad, however, *you may omit the fifth* if this results in smoother voice leading. *You may not omit the third*.

Appendix L discusses the so-called horn fifths, which are a common exception to this last rule and are found in instrumental music of the eighteenth and nineteenth centuries.

Spacing

The distance between adjacent voices may not exceed an octave, *except between tenor and bass*.

OPEN POSITION

Disposing the voices evenly across the staff creates a chord in *open position*.

CLOSED POSITION

Disposing the voices so that the upper three are as close together as possible creates a chord in *closed position*.

Doubling

Given the three pitch classes of a triad distributed among four voices, we must give one pitch class to two different voices. When two voices have the same pitch class we say that they are *doubling* each other (see example 5-1).

RULES FOR DOUBLING

The primary rule for doubling is simple: *Double the most stable notes of the triad*. We apply this rule by considering the following alternatives in order:

- **Doubled Root.** Double the root of the triad, when possible.
- **Doubled Fifth.** Double the fifth of the triad *if this is warranted by some voice leading consideration.*
- **Doubled Third.** Double the third *only for the most compelling voice leading reasons*.

Remember: In a V or vii, *never* double 7^. The leading tone is far too unstable to be doubled. It demands a resolution to 1^, which, if supplied in both voices, would lead to (forbidden) parallel octaves (see "Forbidden Parallel Motions," below).

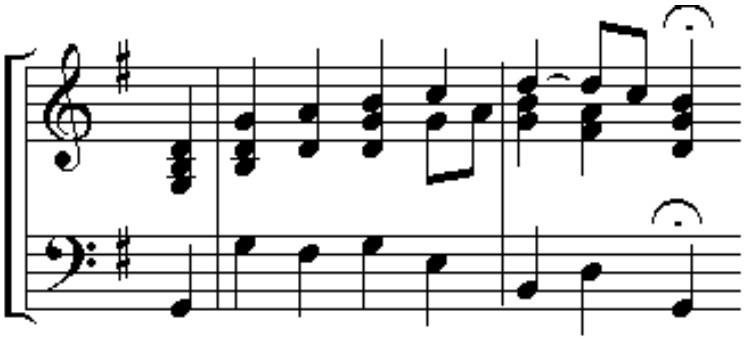
ALTERNATIVES TO DOUBLING

- **Tripled Root.** If the fifth is omitted from the triad, and if that triad is in root position, you may *triple* the root, that is, place the root in three of the four voices, one of which is the bass. The remaining voice will, of course, have the third. As rule, composers reserve the tripled root for the end of a composition or, less often, for the end of a phrase.
- **Seventh Chords.** In a later chapter we will discuss chords called seventh chords. Seventh chords contain four distinct pitch classes and therefore do not require doubling.

Example 5-1, above, illustrates these principles of doubling.

Keyboard Style

For performance on a keyboard instrument, we can use a variant of chorale style called *keyboard style*. In keyboard style, the upper three voices remain in closed position. At the same time, we *notate all three (soprano, alto, and tenor) on the treble staff.* As a result, a musician can perform all three upper voices with the right hand, leaving the bass to the left. The extreme closed position of the upper three voices--a position caused by the size of the hand--often places the tenor voice higher than we would normally find in chorale style.



Ex. 5-3--Example 5-1 in Keyboard Style

VOICE LEADING

To create a four-voice texture in chorale or keyboard style, you must learn how to control each voice, as well as the relationship *between* the voices. The principles and techniques involved in this control are referred to as *voice leading*. From the student's point of view, voice leading has two main goals: to establish and maintain the indpendence of the voices, and to establish and maintain a clear sense of tonality.

Soprano and Bass

The soprano and bass, or *outer voices*, define the chorale texture. The *inner voices* (alto and tenor), serve a supporting role. We must control the relation between the outer voices (see "Simultaneous Motion," below) precisely. Soprano and bass must not only be strong in themselves, but the relationship between them must be strong as well.

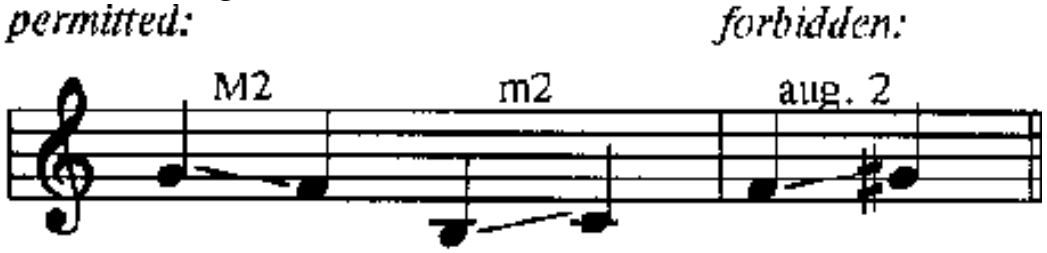
Function of the Individual Voice

Each voice forms a melody. The melodies in the outer voices are prominent, those of the inner voices supportive. These melodies move primarily by step, or *conjunct motion*. They move only occasionally by skip, or *disjunct motion*.

CONJUNCT MOTION

When an individual voice moves by seconds, it moves *conjunctly*. The seconds may be consonant or dissonant.

- **Consonant Seconds.** A voice may move by any number of consecutive major or minor seconds.
- **Dissonant Seconds.** But a voice may *not* move by an augmented second. As we saw in Chapter 3, augmented seconds are ambiguous, unstable, and, therefore, dissonant.

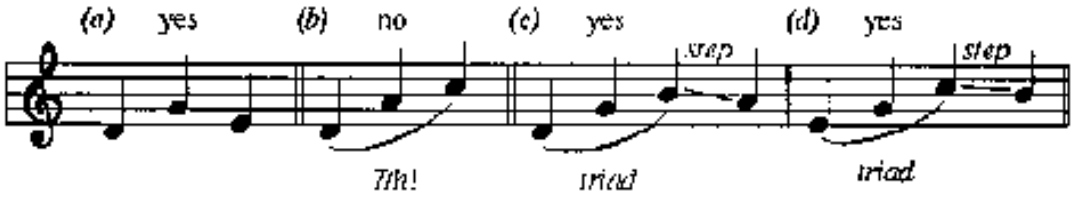


Ex. 5-4--Conjunct Motion

DISJUNCT MOTION

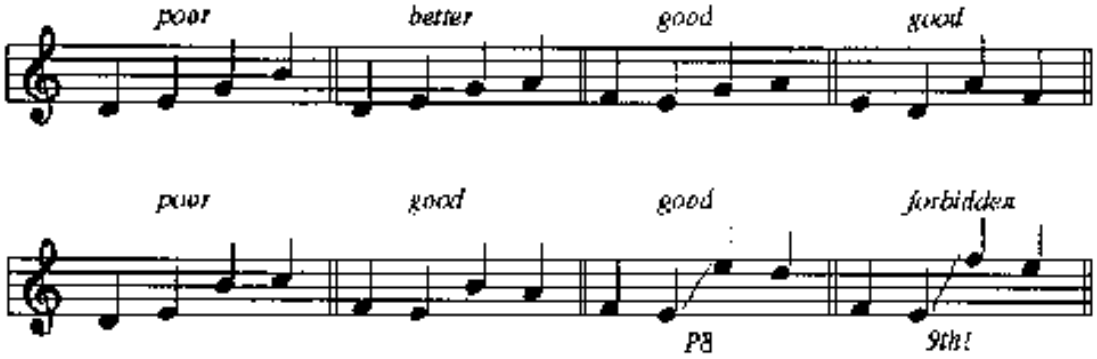
When an individual voice moves by an interval greater than a second, it moves *disjunctly* or by skip. (Some theorists call a skip a "leap." For our purposes, "skip" and "leap" are the same.)

- **Consonant Skips.** A voice may skip any consonant interval *not larger than an octave*.
- **Dissonant Skips.** Disjunct motion by a dissonant interval is possible, but strictly controlled. A voice may skip up a minor seventh if there is some compelling voice leading reason to do so, *and* if it then moves down by consonant step. A voice may skip down a diminished fifth if there is some compelling voice leading reason to do so, *and* if it then moves up by a consonant step.
- **Successive Skips.** Since conjunct motion should be the norm, you should try to avoid successive skips. When used, successive skips work best if small and in opposite directions (example 5-5a). Still, you may use successive skips in the same direction if the combined skips do not exceed an octave, or if the combined skips do not outline a dissonant interval (example 5-5b). Commonly, successive skipsoutline (or arpeggiate) a triad (examples 5-5c and 5-5d) and *a step in the opposite direction follows the second skip*.



Ex. 5-5--Successive Skips

- **Approaching and Leaving Skips.** As a rule, it is best to approach and leave any skip by step *in a direction opposite to that skip*. If this is impractical, you should at least *follow* the skip with a step in the same direction. The larger (or more dissonant) the skip, the more strictly this rule applies.



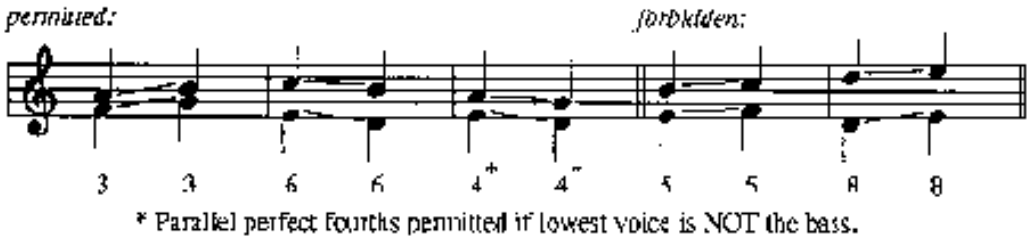
Ex. 5-6--Disjunct Motion

Simultaneous Motion

We can distinguish among four possible relationships between a pair of voices. Voice leading considerations grade these from weak to strong as follows: *parallel* motion, *similar* motion, *oblique* motion, and *contrary* motion.

PARALLEL MOTION

When two voices *move in the same direction by the same interval*, they move in *parallel motion*. Parallel motion is the weakest relative motion.



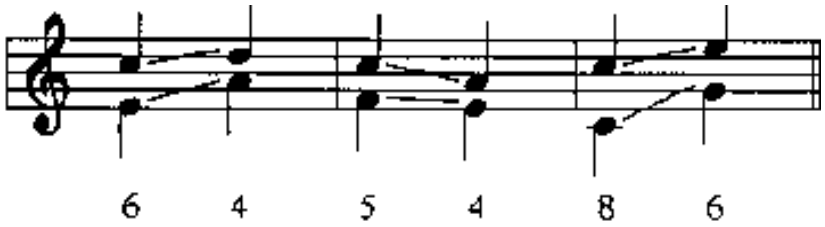
Ex. 5-7--Parallel Motion

You should *avoid parallel motion between outer voices*. Voices that move in parallel lose a degree of independence. Parallel motion between inner voices or between an inner voice and an outer voice is fine, providing the parallel interval is not from the list of forbidden parallels.

Parallel motion in perfect unisons, octaves or fifths between any two voices is forbidden (see "Forbidden Parallels," below).

SIMILAR MOTION

When two voices move in the same direction but *not* by the same interval, they move in *similar motion*. Similar motion is slightly stronger than parallel motion.

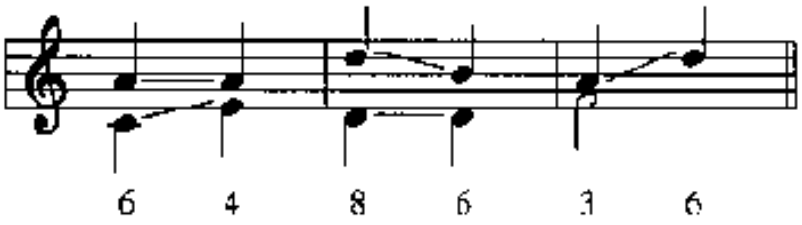


Ex. 5-8--Similar Motion

Avoid similar motion between outer voices when moving into a perfect consonance (see "Hidden Parallels," below). Similar motion between inner voices or between an outer voice and an inner voice is fine.

OBLIQUE MOTION

When one voice moves while the other stays on the same note, *oblique motion* results.

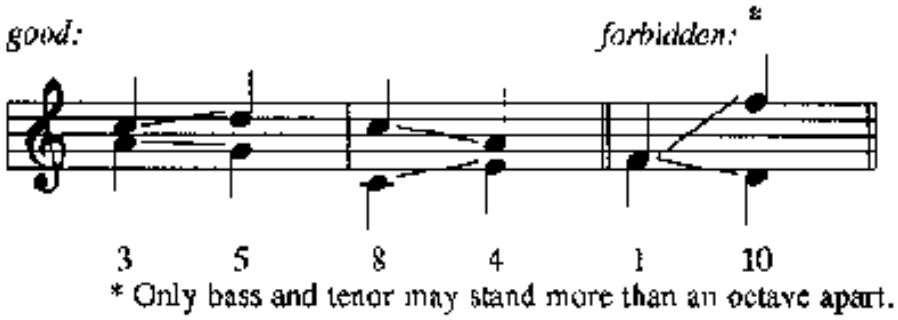


Ex. 5-9--Oblique Motion

Oblique motion has the advantage of emphasizing the independence of the voices involved. For this reason, oblique motion is relatively strong. The moving voice, however, takes precedence over the stationary one. Thus, to emphasize both the independence and the equality of each voice, we look to *contrary motion*.

CONTRARY MOTION

When two voices move in opposite directions, *contrary* motion results.



Ex. 5-10--Contrary Motion

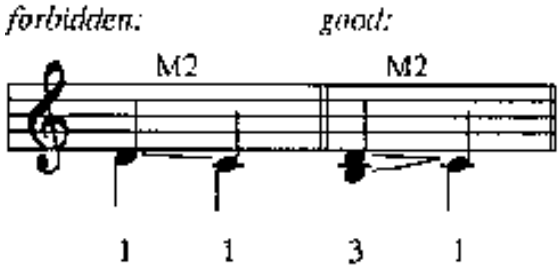
Contrary motion is the strongest type of motion, since the two voices remain both equal and separate. Motion between outer voices should be primarily contrary.

FORBIDDEN PARALLEL MOTIONS

When voices move in parallel, one voice seems to track the other. The two sound less like equal voices than one voice imitated or doubled by another. When the interval that separates the two voices is a perfect consonance, the parallel voices fuse, losing any remaining sense of independence. Thus, tradition forbids the use of the three stronger perfect consonances--the unison, the fifth, and the octave--in parallel motion.

In the Bach Chorales, parallel perfect fourths appear in the upper three voices with regularity and in every conceivable configuration. Despite this, some theory texts (for example, Piston's *Harmony*), allow parallel fourths only when parallel *thirds* occur beneath them. Bach breaks this "rule" as often as he keeps it.

- **Forbidden Parallel Unisons.** A pair of voices may move into or out of a unison, *but not by parallel motion.*

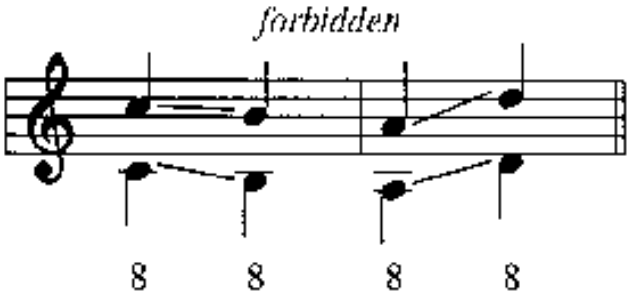


Ex. 5-11--Forbidden Parallel Unisons

Parallel motion by the unison destroys all independence of voices. When moving in parallel by the unison, two voices merge into a single series of pitches.

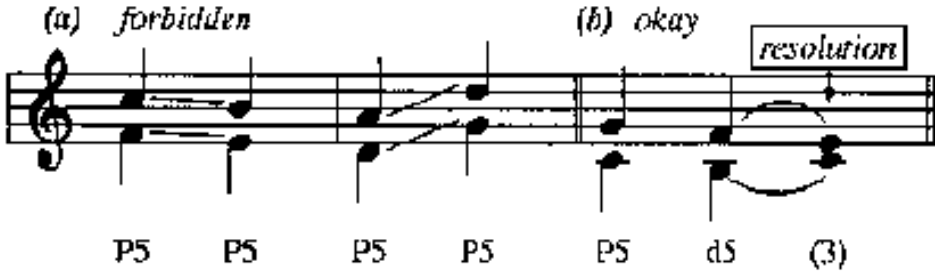
- **Forbidden Parallel Octaves.** Motion by parallel octaves creates the sense, not of *two* voices, but of one voice doubled at the octave. Since this destroys the independence of the "doubling" voice, we must avoid parallel

octaves completely.



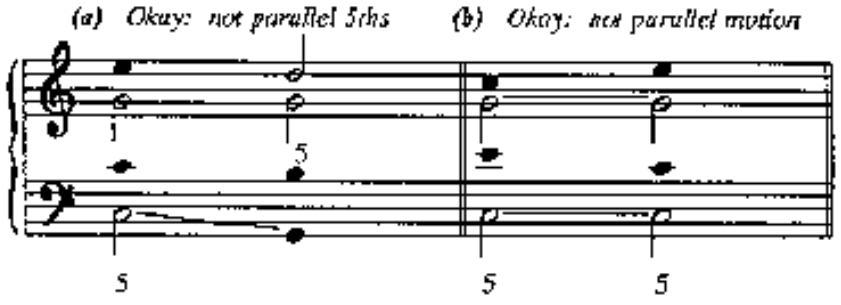
Ex. 5-12--Forbidden Parallel Octaves

- **Forbidden Parallel Perfect Fifths.** Like octaves, fifths in parallel convey the sense of a single voice doubled, and therefore parallel perfect fifths should be completely avoided (see example 5-13a). Two voices may move in parallel from a perfect fifth to a *diminished* fifth *if* the notes of the diminished fifth resolve (see example 5-13b). *Remember:* Diminished intervals resolve inward.



Ex. 5-13--Forbidden Parallel Fifths

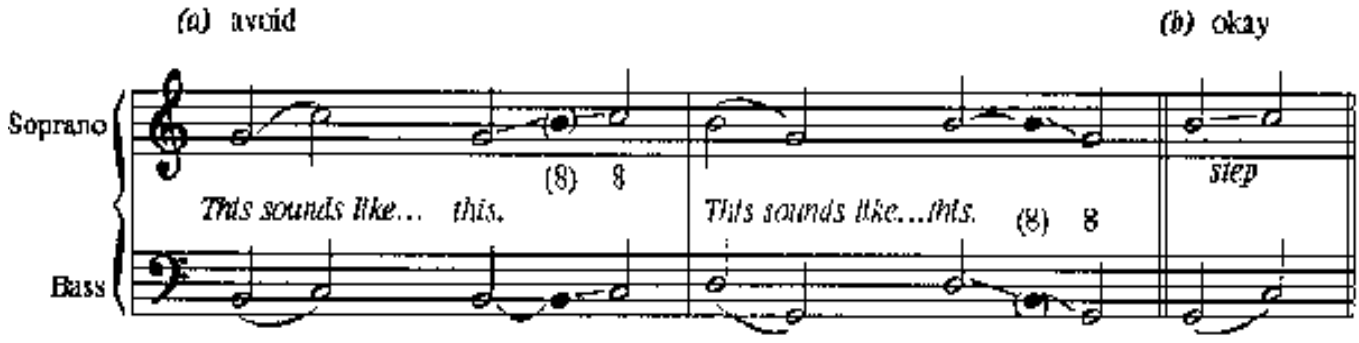
These rules apply to two voices moving in parallel motion. Given two consecutive chords of a four-voice texture, each will usually contain a perfect octave and fifth. This is not a problem unless the repeated interval occurs between the same two voices *and* the voices move in parallel.



Ex. 5-14--Permitted Successive Fifths

Successive fifths that result from repeated notes pose no problem. In example 5-14a, the first fifth is between alto and bass, the second between alto and soprano. These fifths are *not* parallel fifths because they are not between the same two voices. Therefore, they are permitted. In example 5-14b, the first and second fifth *are* between the same two voices (alto and bass) but they do not move. This is not parallel *motion* but repetition. These repeated fifths are permitted.

- **Hidden Parallel Octaves.** If, in the outer voices, we approach an octave by similar motion we create *hidden octaves*. These implicit octaves weaken the independence of our two most important voices. For this reason, avoid such voice leading, *except when the soprano moves by step*. A direct step in the upper voice destroys the implicit parallels that otherwise might result.

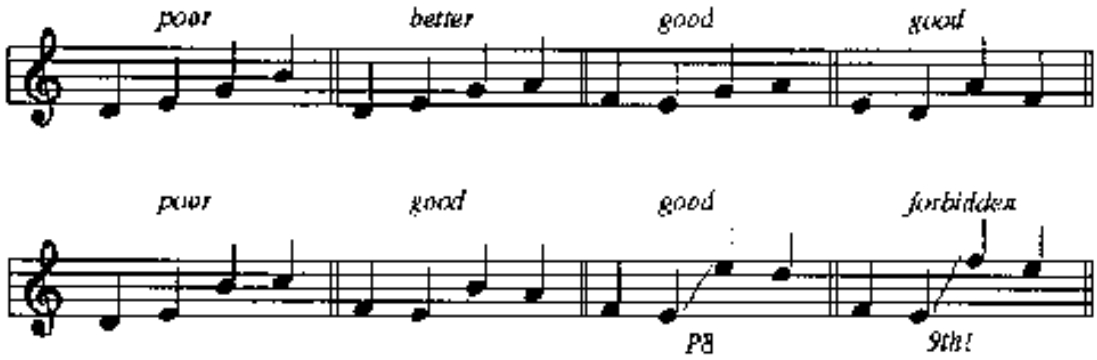


Ex. 5-15--Hidden Parallel Ocaves

Voice Crossing and Overlap

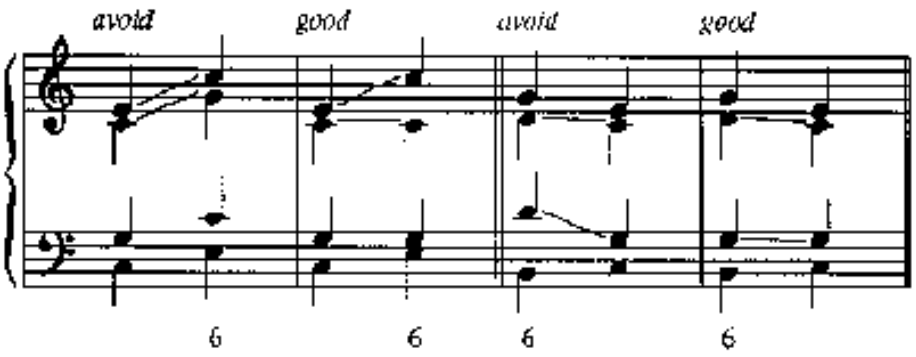
Parallel motion is not the only challenge to the independence of voices. Registral confusion can lead to an equally serious loss of independence.

- **Voice Crossing.** As a rule, adjacent voices should not cross. That is, the alto should not be higher than the soprano, nor the tenor higher than the alto, nor the bass higher than the tenor. When adjacent voices switch position, a voice crossing results. In chorale-style literature, composers occasionally cross voices (and this, most often, in the inner voices). As a student, however, you will do best to avoid voice crossings, *especially voice crossings that involve an outer voice*. Most theory texts forbid voice crossings. *Voice crossings do not correct forbidden parallels.*



Ex. 5-16--Voice Crossings

- **Voice Overlap.** When the lower of two adjacent voices moves to a pitch higher than the previous pitch in the upper voice, we have a *voice overlap*. Voice overlaps occur regularly in the Bach Chorales. Many theory texts, however, forbid them. Since voice overlaps easily lead to a confusion of voices, and since they are usually unnecessary, you will do best to avoid them. *In keyboard style, however, voice overlaps are both unavoidable and appropriate*.



Ex. 5-17--Voice Overlaps

General Guidelines for Composing Inner Voices

In *realizing*--that is, fleshing out--a four-voice texture, you should concern yourselves primarily with the outer voices. If you create strong voice leading between soprano and bass, you will run into few problems realizing the inner voices.

GENERAL VOICING GUIDELINES

Whether to place a chord in open or closed position is a question of *voicing*. As a rule, you should keep the inner voices high. This leads both to a clearer sound and more easily realized part writing. Leave your voices room to maneuver, however. Continuous closed voicings force frequent voice overlaps and crossings. So, you are best off mixing closed with open voicings, favoring--all things being equal--the voicing that puts the inner voices higher. (In keyboard style, however, closed positions dominates, since overlaps are unprolematic.)

GUIDELINES FOR COMPOSING THE INDIVIDUAL VOICE

Broad rules regulate the composition of individual upper voices. (As we will see in the next chapter, the bass is a special case.) Govern your specific decisions by the following rules of thumb:

Rule: When possible, repeat a note from one harmony to the next. If repetition is impossible, move by step. If you can neither repeat a note nor move by step, only then should you move by skip.

Rule: If you must skip, skip by the smallest (consonant) interval possible.

Only when the above options fail should you consider a large or dissonant skip. If you follow these guidelines *in the order given*, you will find that skips are seldom necessary and that note repetition and conjunct motion are the norm within the upper voices.

Summary

The four voices of chorale style are soprano, alto, tenor, and bass. Except in keyboard style, adhere to their conventional ranges.

In creating music in chorale style, use complete triads. (If you omit any triad note, it should be the fifth.) Double (or--if omitting the fifth--triple) the root of the triad. Double the fifth only for some compelling voice leading reason. Avoid

doubling the third of a triad except in very special contexts (described in Chapter 7). Do not double the leading tone (7^) in a V or vii.

Avoid parallel perfect unisons, fifths, and octaves completely. You may use parallel perfect fourths as long as they do not involve the bass. (If you are working from Piston's Harmony, *however, parallel fourths must always be accompanied by parallel thirds in a lower voice.) Avoid voice crossings and voice overlaps. When possible, move by step.*

Concern yourself primarily with the outer voices--the soprano and the bass. Maintain the independence of each and keep the relationship between them strong.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapters 4-5.
- Fux, Johann Joseph. *The Study ofCounterpoint from Johann Fux's "Gradus ad Parnassum."* Translated and edited by Alfred Mann. New York: Norton, 1965. Part I, sections I-II.
- Jonas, Oswald. *Introduction to the Theory of Heinrich Schenker*. Translated and edited by John Rothgeb. New York: Longman, 1982. Chapters 1-2.
- Komar, Arthur J. *Theory of Suspensions*. Princeton, NJ: Princeton University Press, 1971. Chapters 1-3.
- Mitchell, William J. *Elementary Harmony*. 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1948. Chapter 7.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 3.
- Salzer, Felix. *Structural Hearing*. New York: Dover, 1962. Chapters 2-3.
- Schenker, Heinrich. *Counterpoint*. 2 vols. Edited by John Rothgeb. Translated by John Rothgeb and J•rgen Thym. New York: Schirmer Books, 1987. Part 1.
- Schenker, Heinrich. *Harmony*. Edited by Oswald Jonas. Translated by Elisabeth Mann Borgese. Chicago: University of Chicago Press, 1954. Section II.
- Schoenberg, Arnold. *Theory of Harmony*. Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Part II.
- Westergaard, Peter. *An Introduction to Tonal Theory*. New York: Norton, 1975. Chapter 3.
- Williams, Edgar W. *Harmony and Voice Leading*. New York: Harper Collins, 1992. Chapter 5.

top | bottom | next chapter | previous chapter

Pulse, Rhythm, & Meter

The durations of tonal music are divisible by the pulse. Pulses are organized into measures. Measures are organized by patterns of accents.

Accents result from both rhythmic placement and harmonic content. The stability of consonance implies strong metrical placement. The embellishing character of dissonance implies relatively weak metrical placement. Techniques of syncopation, however, may displace a strong beat to a weak one by reversing these implicit associations.

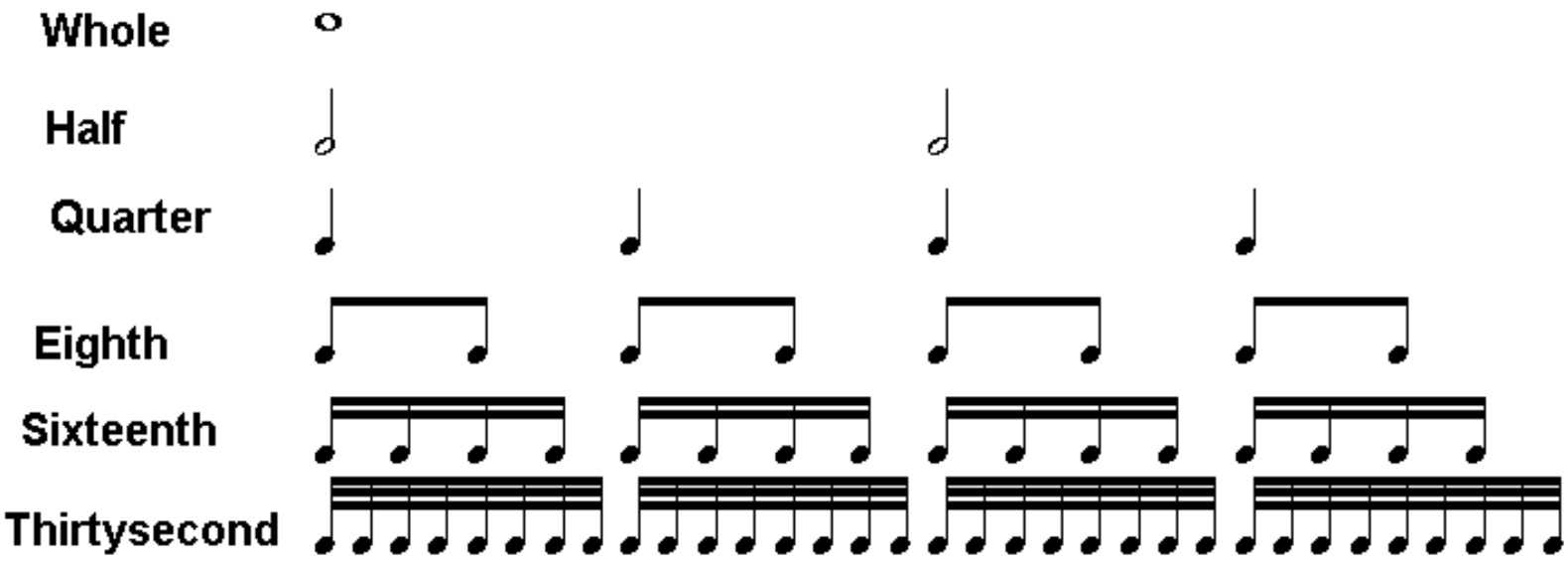
The affect of tonal music arises in large part from this interplay of pitch and rhythm. Consonance and dissonance, metrical uniformity and irregularity, all conspire to create dramatic patterns of expectations met, frustrated, and finally resolved.

Rhytmic Notation

In the section on duration and tone we learned that the ability to make pitch discriminations is one of the principal tools used to distinguish the ending of one sound from the beginning of another, and that we have evolved a proportional system of notation that most accurately represents our rhythmic memories. As we tend to hear the octave (the pitch-ratio 1:2), as the most basic of pitch relationships, we also tend to hear the rhythmic ratio 1:2 as the most fundamental rhythmic relationship. In the pitch-interval of an octave (1:2), the wave-length of the lower pitch is twice that of the upper one; similarly, the number 1 in the 1:2 ratio represents a duration twice as long as the number 2. Therefore, the notational system consists of a "tree" of **note-values**.

The Note Tree

The type of note head (hollow or solid), along with the presence or absence of a stem with or without one or more flags, depicts relative duration. The basic note value is the *whole note*. Each successively smaller note value is one half the duration of the previous one, producing an infinite regress of binary subdivisions beginning with the longest note-value (1: the **whole-note),** and decreasing in duration by a factor of two (2:1 the **half-note**, 4: 1the **quarter-note**, 8: 1the **eighth note**, 16: 1the **sixteenth note**, 32:1 the **thirty-second note**, *etc*.) Note *names* reflect this infinite regress.

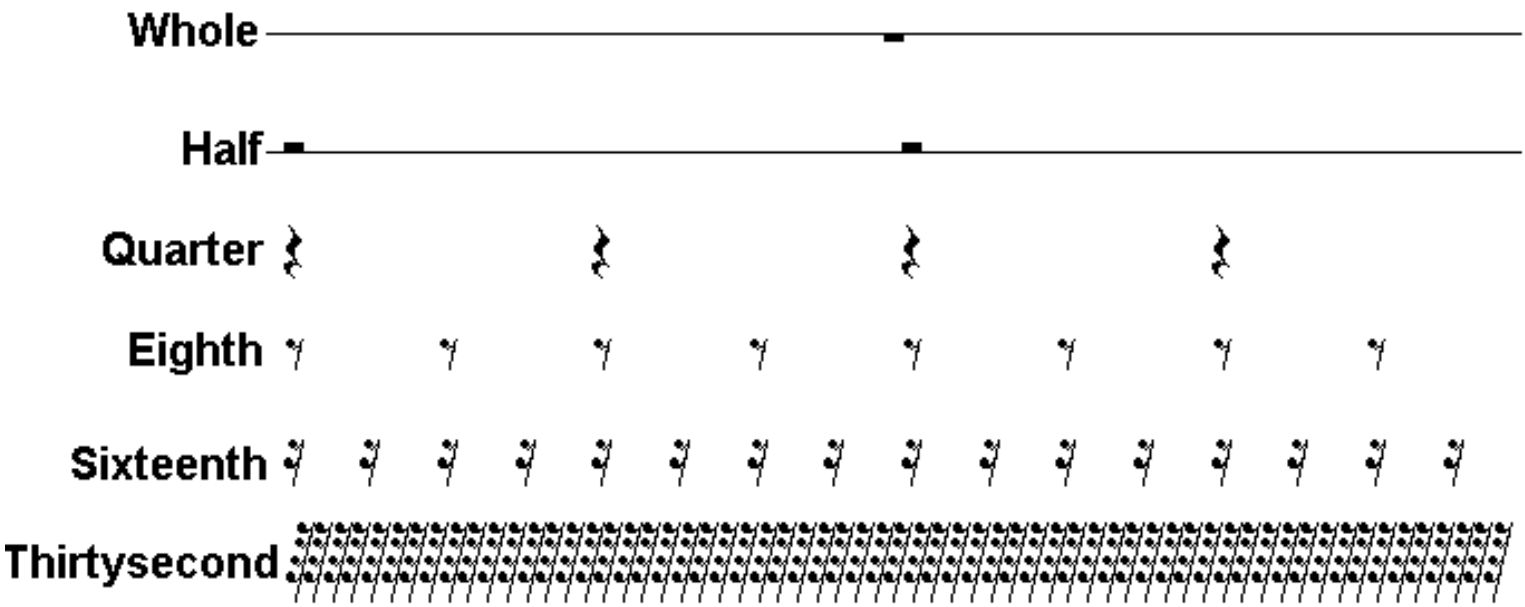


The Note Tree

- **Whole Notes.** The whole note is a hollow note head without a stem.
- **Half Notes.** The half note (one half the duration of a whole note) has a hollow note head and a stem.
- **Quarter Notes.** The quarter note (one quarter the duration of a whole note) has a solid note head and a stem.
- **Notes Smaller than the Quarter.** The *eighth note* has a solid note head, a stem, and one *flag*. A *sixteenth note* has a solid note head, a stem, and two flags. A *thirty-second note* has a solid note head, a stem, and three flags. *Adding a flag halves the note value.*
- **Beams.** When two or more flagged notes follow each other, we can replace the flags with *beams* that connect the stems. The number of beams, just like the number of flags, tells us the relative duration of the note (see example 1-11).

The Rest Tree

Each note value has a corresponding *rest*. The rest represents a pause or silence of the same duration as the equivalent note value.



The Rest Tree

Appendix B gives American and foreign note and rest names.

Ties

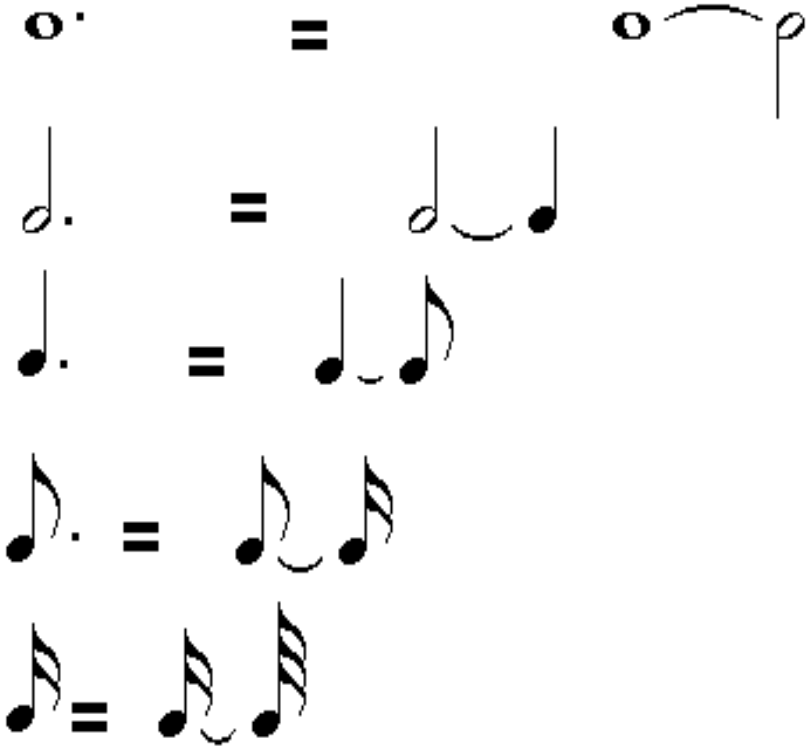
We can construct more complex durations by connecting two note heads with a curved line called a *tie*. When a tie connects the note heads of two separate durations, the two durations combine to form one duration.

The Tie

⚠ *Do not confuse a* **tie** *with a* **slur** *or phrasing marking*. A tie connects two note heads *of the same pitch*.

Dotted Notes and Rests

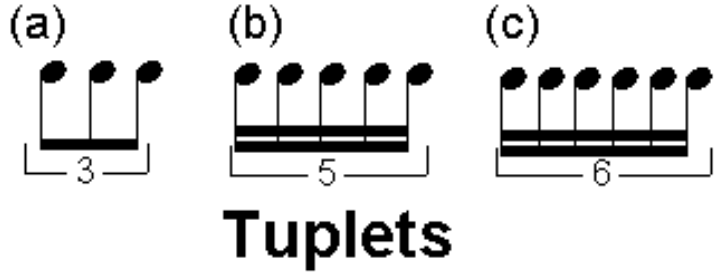
The addition of a dot *after* any note head or rest increases the relative value of that note or rest by one-half. Thus, a dotted whole note or dotted whole rest has the same duration as a whole note and a half note tied together. A dotted half note or dotted half rest has the same duration as a half note tied to a quarter note, and so on.



Do not confuse a dot after *a note head, which increases that note's duration by one half, with the dot* above *or* below *the note head, which represents a type of articulation mark called* staccato *(see "Articulation Marks").*

Tuplets

We can force a division of note values into thirds, fifths, sixths, or any other subdivision by creating a *tuplet*. For example, three eighth notes beamed together and labeled with a *3* direct us to divide a quarter note into three (rather than the usual two) equal parts (example 1-15a). This particular tuplet is called a *triplet*. We can create tuplets of five subdivisions (quintuplets, example 1-15b), six subdivisions (sextuplets, example 1-15c), or any other number of subdivisions in the same way.



Rhythmic Organization

Informally, we call the temporal aspect of music its *rhythm*. How tonal music unfolds in time, however, is quite complex, and the relative duration of successive events, their *rhythm*, is only one part of temporal organization. There are four, altogether: *pulse, tempo, rhythm,* and *meter*.

Patterning

Our sensory nervous systems navigate safely through this complex and threatening world by distinguishing pattern (important stuff -- originally survival related), from noise (unimportant stuff). One of the ways in which our auditory nervous systems detect patterns is to keep a temporary list of the most recently heard sounds in "short-term-memory" and compare sets of incoming sounds to them.

We recognize the incoming sound-stream as a reiteration or variant of the pattern in memory if their essential features are similar, especially features related to their beginnings.. This is done at the unconscious neurological level, without engaging the higher cognitive functions of the brain. After all, at one time our ancestors had to recognize important life-threatening sounds and respond with "reflex-speed".

The Pulse

One of the simplest and most basic types of auditory patterns is the **pulse-train**. . .a series of sounds (not necessarily the same sound), the beginnings of each being equally separated in time. We often refer to the sensation of a pulse-train as ***feeling the beat.*** (Listen to examples A, B, and C below.) We refer to the individual elements of the pulse train as **pulses**.

Pulse-train A **Pulse-train B** **Pulse-train C**

In all three examples every individual pulsation was the same with respect to volume, and timbre. Nothing was added to examples B or C to produce the impression of "groups of pulses". Nonetheless, it is quite common for listeners to imagine subgroups of pulses especially when listening to an extremely slow or fast pulse-train.

Tempo

We call to the number of pulses per minute the **Tempo** . The tempi for the examples were 72, 300, and 10 respectively. The tendency to group pulses (as in example B), or supply intermediary pulses (as in example C) is not fully understood; but it is probably an attempt by the brain to impose upon what is heard a temporal structure more in keeping with other bodily rhythms (for example heart-rate, breathing, walking, and chewing).

Meter

Whenever we do this, and for whatever reason, we are producing **meter**. . .the organization of pulses into groups focusing on or emphasizing certain pulses over others. Music that incorporates meter is called **metric** music.
In many musical cultures (especially in the 20th century popular music of the West), entire musical layers (*the rhythm-track)*, instruments (*the drums)*, and even sections within ensembles (*the rhythm section*), are given the task of "keeping the beat", making the pulse-train and the meter audible.

Accents

In Western European art-music, however, the metric structure of the music only becames audible by the careful composition and coordination of four types of accent:

- **harmonic accents** created by patterns of pitch=intervals
- **agogic accents** created by the relative durations and duraion patterns of the pitches,
- **tonic accents** created by the contours and repetitions produced by organized strings of pitches, and
- **dynamic accents** created by the relative loudness or volume differences between pitches.

If our goal is to write music that is recognizable as "common practice tonal music", we must learn to coordinate these types of

accent (especially harmonic and agogic accent), so that the metric structure is audible in the pitches rather than only in our imaginations. Since it is paramount that we learn to use these skills to create music that is metrically simple but compositionally sophisticated, you will be gradually introduced to rhythmic and metric notation as a part of our study of harmony and voiceleading. Throughout this entire book we will only incorporate a small fraction of what are considered standard rhythmic resources, but we will come to understand rhythm in a more profound way.

The following are simple illustrations of how the above types of accent work individually and in concert to produce meter:
Click on the highlighted items to hear the examples.

Dynamic Accent (volume)	**Agogic Accent (duration)**	**Tonic Accent (register)**
The relative loudness of one even accents it above the other, thus producing beat subdivisions and/or groupings of beats ("meter").	Note how the longer note values appear accented in relation to the shorted note values, thus producing beat subdivisions and/or groupings of beats ("meter").	In this example, the tonic pitch happens to be the lowest note in a four-note pattern that is repeated at the beginning of the melody. Notice how the low **register** placement of tonic helps distinguish the patterns from each other and establish a quadruple (four-beat) meter.

Harmonic Accent (semitone resolution to tonic)	**Harmonic Accent (harmonic pattern)**
Notice in this example how the tonic scale degree seems accented, *even though there is no dynamic, metrical, or rhythmic reason why it* should *be accented.* We simply hear the intervalic (harmonic) complex of notes around the tonic as focussing *on* the tonic due to repeated leading-tone resolutions to tonic and subordinate subdominant resolutions to the mediant; thus we perceive an accent.	In this example (Haydn's Sonata No. 3 in C Major, Allegro), meter is produced by changing the triad that is being unfolded and embellished every three pulses; thus producing triple meter. (By the way, tonic accent produces the pulseand its three subdivisions in the accompaniment pattern.)

Rhythm and Meter

A succession of durations is a rhythm. There are three basic types of musical rhythm: free, multimetric, and isometric.

- A *free rhythm* is one in which we perceive only the relative length of successive notes.
- A *multimetric rhythm* is one in which every duration is a whole-number multiple of some smaller unit of duration.
- An *isometric rhythm* is a multimetric rhythm in which the resulting durations group themselves into larger units of equal duration called *measures*.

As a **rule**, the rhythms of functional tonality are isometric. Isometric rhythm has three components: *rhythm, pulse, and meter*.

Metrical Notation

The interplay of harmony and melody organizes pulses into groups. We call the arrangement of pulses into groups *meter*. We call the pulse groupings themselves *measures* or *bars*. The division between measures is shown with a vertical line through the staff called the *bar line*. We specify the meter of a musical work with a *meter signature* or *time signature*.

METER SIGNATURES

The meter signature appears after the key signature at the beginning of a musical work. A meter signature has two parts.

- **The Numerator.** The top number gives the number of pulses in a measure.
- **The Denominator.** The bottom number gives the note value that corresponds to the pulse.

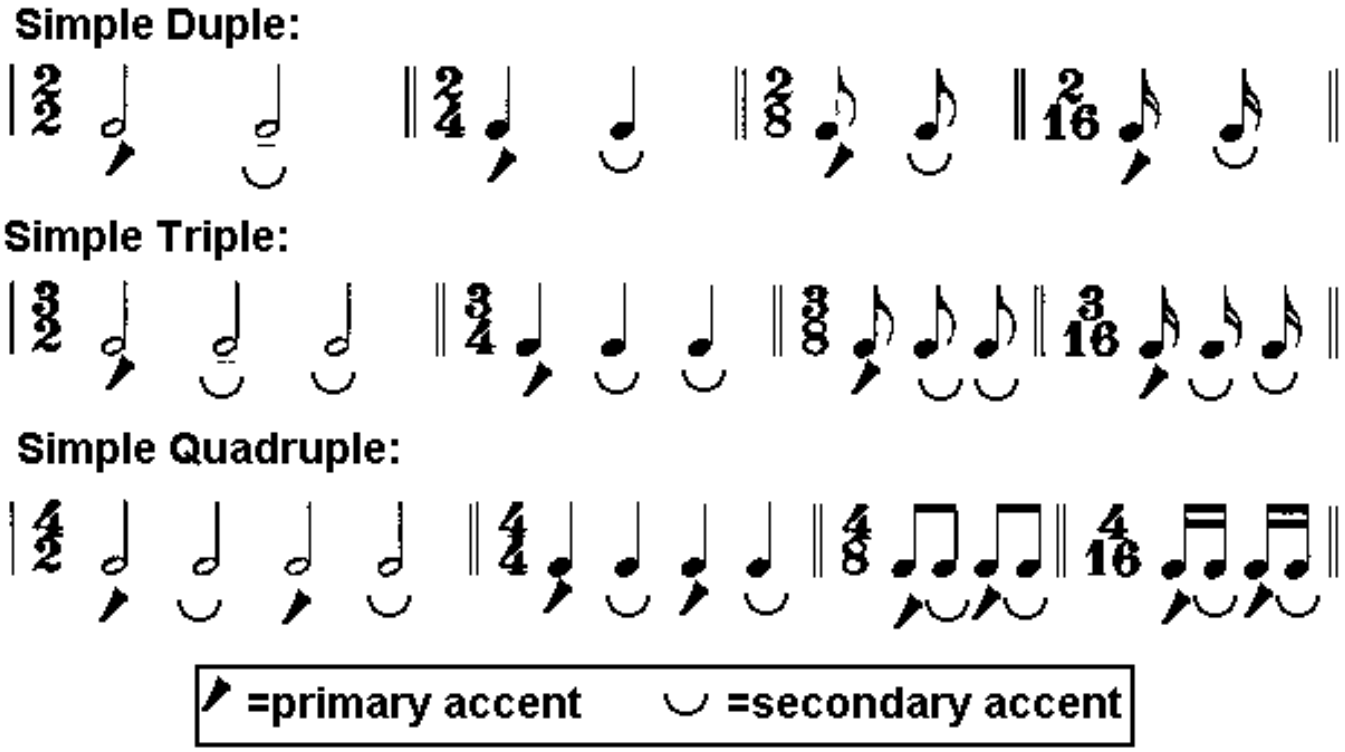
For example, $\frac{3}{4}$ indicates a meter in which there are three pulses to the measure, with each pulse having the value of a quarter note. The meter signature $\frac{4}{8}$ indicates a meter in which there are four beats to the measure, with the eighth note acting as pulse. Like other meters of the type, $\frac{3}{4}$ and $\frac{4}{8}$ are called *simple meters.* For simple meters, these simple relations hold. But there is another type of meter called *compound*. For compound meters, the meter signature provides more ambiguous information.

THE TYPES OF METER

Tonal music presents us with two types of meter: *simple meter*, and *compound meter*. The pulse of each differs.

SIMPLE METERS

A simple meter has a simple pulse. A simple pulse divides into *pairs* of smaller note values. The numerator of a simple meter signature gives the number of pulses in a measure. The denominator gives the note value that corresponds to thepulse. As a rule, *the numerator of a simple meter will be less than six*.



Musicians sometimes refer to $\frac{4}{4}$ as *common time.* The symbol **C** often replaces the meter signature and stands for common time or $\frac{4}{4}$. Similarly, musicians often call $\frac{2}{2}$ *cut time* (or, more formally, *alla breve)*. The symbol ¢ replaces the meter signature and stands for cut time or $\frac{2}{2}$.

COMPOUND METERS

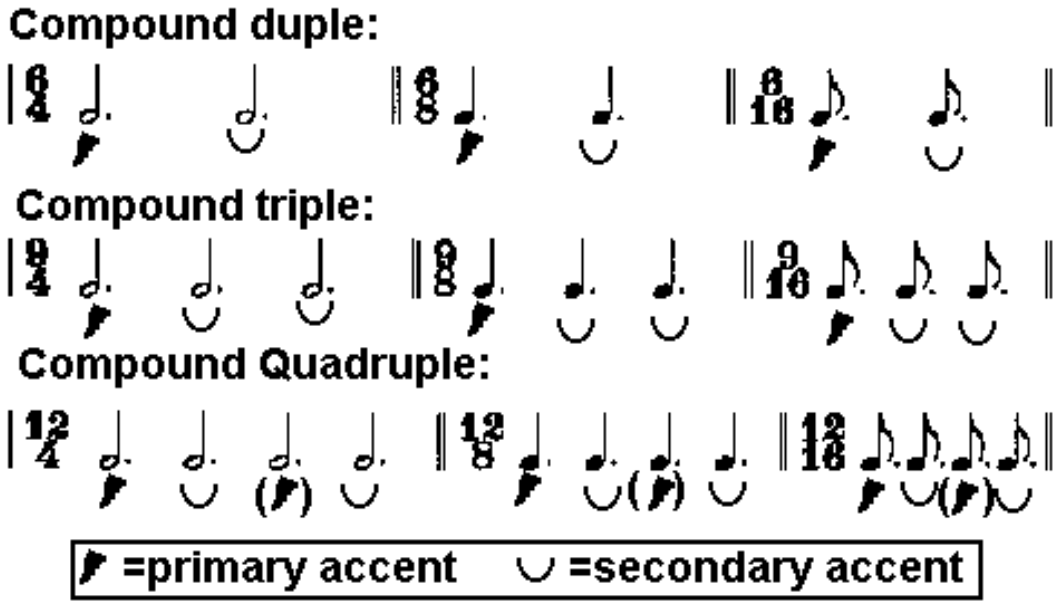
Compound meters have *compound pulses*. A compound pulse divides into *three* parts. Since all our note values divide

naturally in half, we must represent a compound pulse with a dotted note value. It is impossible to represent a dotted note value with a simple integer, though. As a result, the denominator of a compound meter does not show the note value of the pulse. Rather it shows the note value of the largest equal subdivision of the pulse.

To interpret a compound meter signature then, we must first divide the numerator by three. This gives us the number of pulses in the compound measure. Then, we must group together three of the note values given by the denominator. The combined duration of these three values gives the duration of the pulse.

For example, $\frac{6}{8}$ is a compound meter (see example 4-2). The 8 represents the largest equal subdivision of the pulse. Three of these subdivisions make up the pulse, so three eighth notes equal one pulse. Our pulse, then, is three eighth notes long, or the duration of a dotted quarter note. There are six eighth notes in the measure, so there are two pulses to the measure. (A pulse equals three eighth notes. A measure equals six eighth notes. Six divided by three equals two pulses.)

As a **rule**, *the numerator of a compound meter will be greater than five, and it will be divisible by three.*



RHYTHM, METER, AND TONALITY

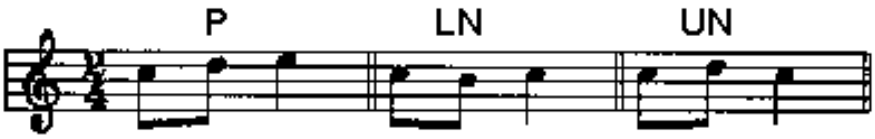
As we learned above, pitch and rhythmic organization combine to create a regular pattern of stresses and releases. We call these stresses *accents* and, informally, associate certain patterns of stress with certainmeters. We observe three types of accents in tonal music: *tonic*, *agogic*, and *dynamic*.

Rhythm and Dissonance

The stable character of consonance creates yet another layer of tonic accent. We commonly associate this tonic accent with metrically strong beats. Conversely, we find dissonance relegated to relatively weak beats. There, its unstable, embellishing character does not contradict the meter's regularity.

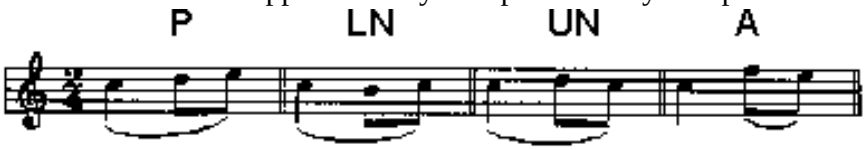
PASSING AND NEIGHBORING NOTES

As a rule, passing notes and neighbor notes arise in a weak position relative to the stable notes that surround them. We consider passing and neighboring notes that arise in this way *unaccented*.



P = passing note
LN = lower neighbor note
UN = upper neighbor note

When we place unstable notes on the pulse, thy are *accented*. Such accented dissonances contradict the usual strong-weak pattern. They create an especially expressive form of syncopation called an *appoggiatura*.
An *appoggiatura* is an accented dissonance approached by a skip and left by a step. We will discuss it in Chapter 10.



P = accented passing note
LN = accented lower neighbor note
UN = accented upper neighbor note
A = appogiatura

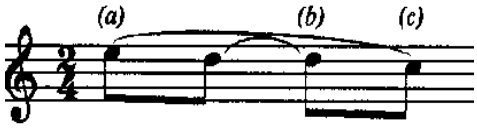
RHYTHMIC DISPLACEMENT

Accented dissonances give us the impression that the strong beat has, in some way, been displaced, that its metrical position has been taken over by this dissonance. The expressive effect of the appoggiatura, for instance, arises in large part from this sense of delayed resolution. We call this *rhythmic displacement*.
Two additional forms of dissonant embellishment arise from the technique of *rhythmic displacement*. Given two successive stable notes, we may displace them rhythmically in two ways: with the *anticipation* or with the *suspension.*

- **The Anticipation.** Beginning with the first (consonant) note (example 4-5a) on a relatively strong beat, we can move to the second (consonant) note (example 4-5c) *before* the next strong beat, creating a momentary dissonance called an *anticipation* (example 4-5b).

<

The Suspension. Beginning with the first (consonant) note (example 4-6a) on a relatively strong beat, we can delay the arrival of the second (consonant) note (example 4-6c) until *after* the next strong beat. This creates a momentary dissonance called a *suspension* (example 4-6b).



We will learn more about these techniques later.

Phrase Structure

Patterns of stress and release, dissonance and resolution, act at all levels of tonal composition. Groups of measures

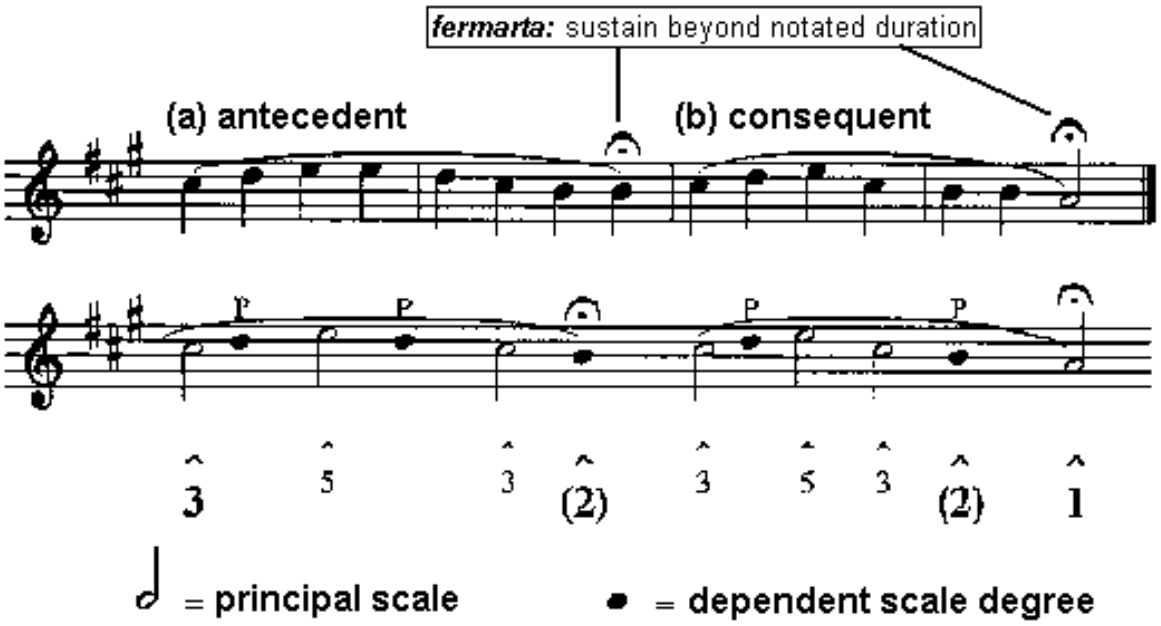
form themselves into *phrases*, phrases group themselves into sections, and sections combine to form entire movements.

We often see two simple phrase types in tonal music, the *period* and the *sentence*.

THE PERIOD.

The period is made up of two equal-length phrases.

- **Antecedent.** The first phrase, or *antecedent*, is stressed, beginning in a stable position and then destabilizing (see example 4-7a).
- **Consequent.** The second phrase, or *consequent*, is unstressed, beginning in an unstable position and then stabilizing (see example 4-7b).

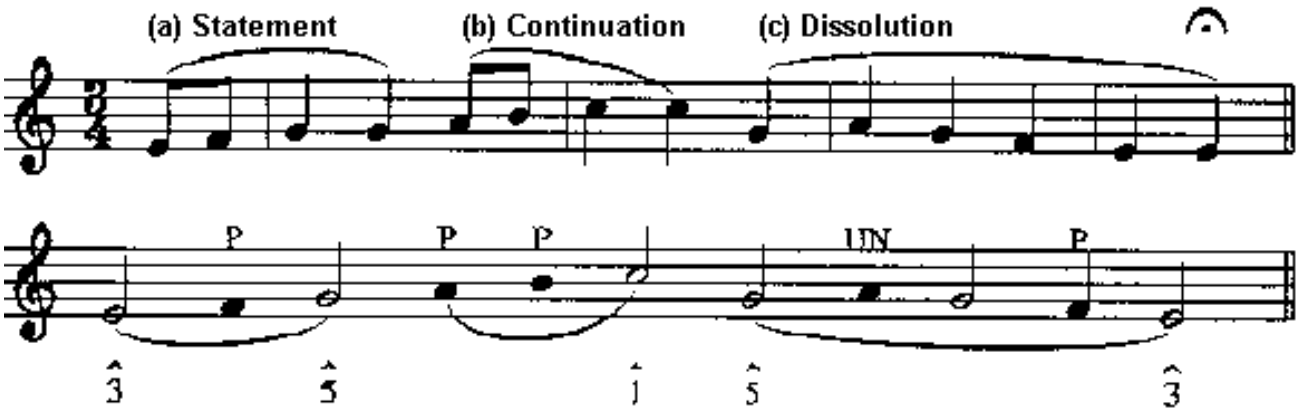


In example 4-7, the antecedent begins on stable 3^ but ends on the upper neighbor to 1^, 2^. The consequent begins again on 3^ and then completes the passing motion from 3^ through 2^ down to 1^.

THE SENTENCE

The sentence is more complex than the period. The sentence has three parts, the first two relating to each other as antecedent to consequent. The last phrase (as long as the first two combined) integrates the two. It moves from instability to stability.

- **Statement.** The first phrase of the sentence is the *statement*. Like the *antecedent* of the period, it is stressed (see example 4-8a).
- **Continuation.** The second phrase of the sentence is the *continuation*. Like the period's *consequent*, it is unstressed. The continuation is a varied repetition of the statement (see example 4-8b).
- **Dissolution.** The last phrase of the sentence is the *dissolution*. It is the length of *statement* and *consequent* combined (see example 4-8c).



In example 4-8, the continuation repeats the statement a fourth higher. The dissolution is the length of the statement and the continuation combined.

We will discuss the period and sentence further in *Motive, Phrase, and Melody*.

SUMMARY

The regular flow of beats that we sense beneath a musical texture is called the pulse. *The relative speed of those pulses is the* tempo. *The successive duration of musical events is* rhythm. *The organization of pulses into groups of equal duration is called* meter.

Tonal music is isometric. *Durations are an integral multiple of some smaller unit of duration (pulse). Those pulses group themselves into larger units of equal duration (measures). We find two kinds of meter in tonal music: simple and compound.*
A meter signature *or* time signature *suggests a meter. Those meters whose pulse divides naturally into two smaller note values are* simple meters. *In the time signature of a simple meter, the numerator gives the number of pulses in a measure and the denominator gives the note value of the pulse. Those meters whose pulses divide into three are* compound meters. *Their meter signatures are more difficult to interpret. In a compound meter, the numerator divided by three gives the number of pulses per measure. The denominator grouped in threes gives the note value of the pulse.*
Accents *form another layer of metrical organization. We find three kinds of accents in tonal music:* tonic, agogic, *and* dynamic. *Tonic accents result from harmonic or metrical emphasis. An agogic accent occurs when a duration is longer than those surrounding it. A dynamic accent results when a musical event is louder than those surrounding it.*
Accents that arise in a relatively weak metrical position are syncopations. *Syncopations that arise from the apparent displacement of a relative strong beat to a relatively weak one are called rhythmic displacements. We commonly find two kinds: anticipations and suspensions.*
Harmonic consonance often coincides with strong metrical position. Harmonic dissonance usually arises in a relatively weak metrical position.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading.* 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapter 3.

- Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception.* 5th ed. New York: Harper & Row, 1988. Chapters 2-3.
- Lester, Joel. *The Rhythms of Tonal Music.* Carbondale, IL: Southern Illinois University Press, 1979. Chapters 1-3.
- Mitchell, William J. *Elementary Harmony.* 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1948. Chapter 3.
- Piston, Walter. *Harmony.* 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 13.
- Sachs, Curt. *Rhythm and Tempo.* New York: Columbia University Press, 1953. Chapter 1.
- Williams, Edgar W. *Harmony and Voice Leading.* New York: HarperCollins, 1992. Chapter 4.

top | bottom | next chapter | previous chapter

Basic Harmonic Grammar

Harmonic progressions arise when the tonic triad is unfolded in time through arpeggiation. Dissonant passing notes prolong this process, which we call composing out. Root position harmonies provide consonant support for passing motions within the tonic triad. They create progressions of triads whose roots are related by fifth or third.

Functional tonality has two aims: maintaining voice independence and establishing a clear tonality. The voice leading guidelines outlined in the previous chapter concentrate on the former. Those in this chapter concentrate on the latter. However, you must remember that harmonic progressions arise from voice leading, and that voice leading expresses harmonic progressions.

5/3 TECHNIQUE

Tonal music does not merely begin and end in the same key. It extends the tonic triad of a key from the beginning of the musical work to its end. That process which extends and embellishes the tonic triad in time is called *composing out*.

Composing out has three stages: *unfolding*, *prolonging*, and providing *consonant support*. First, we unfold the triad in time by arpeggiating it. Next, we prolong the arpeggiated intervals by filling them in with passing notes. Linear progressions result. They begin and end on chord notes and the intervening scale degrees fill them in. Finally, we provide each of these (dissonant) passing notes with consonant support--that is, we provide each with its own triad, one that contains the former passing note as a chord member.

Composing-out: Unfolding and Prolongation

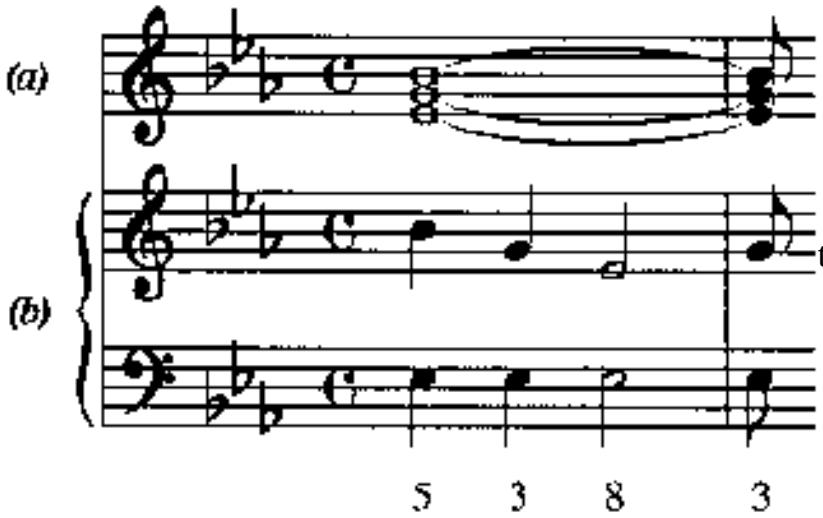
We can see this unfolding of the tonic triad in example 6-1. Mozart unfolds the tonic triad (6-1a) in time through arpeggiation (6-1b). To compose out further, he prolongs certain arpeggiated intervals with dissonant passing notes, creating linear progressions 5^-3^, 3^-1^, and 1^-3^ (see example, 6-1c). □ Although this process results in melody alone, we begin to see how harmony (in this case, the tonic triad) finds expression through melody. In the next step, you will learn to unfold a triad in more than one voice. This process results in *counterpoint*.

Species Counterpoint

Traditionally, composers learn counterpoint in stages. Each stage is called a species of counterpoint and the counterpoint that results *species counterpoint*. Of the traditional five species, only the first two need concern us here. First- and second-species counterpoint will help you understand the proper relation between outer voices (soprano and bass). They will teach you as well how triads progress one to another in support of linear progressions. (Click |here| to read Appendix O: *Procedures for Writing Species Counterpoint*)

FIRST SPECIES

In first-species counterpoint, the voices move in equal note-values, note-against-note. In addition, each voice remains consonant with the other.

If example 6-1 showed the upper voice of a first-species model, it would requires a second, lower voice consonant with 

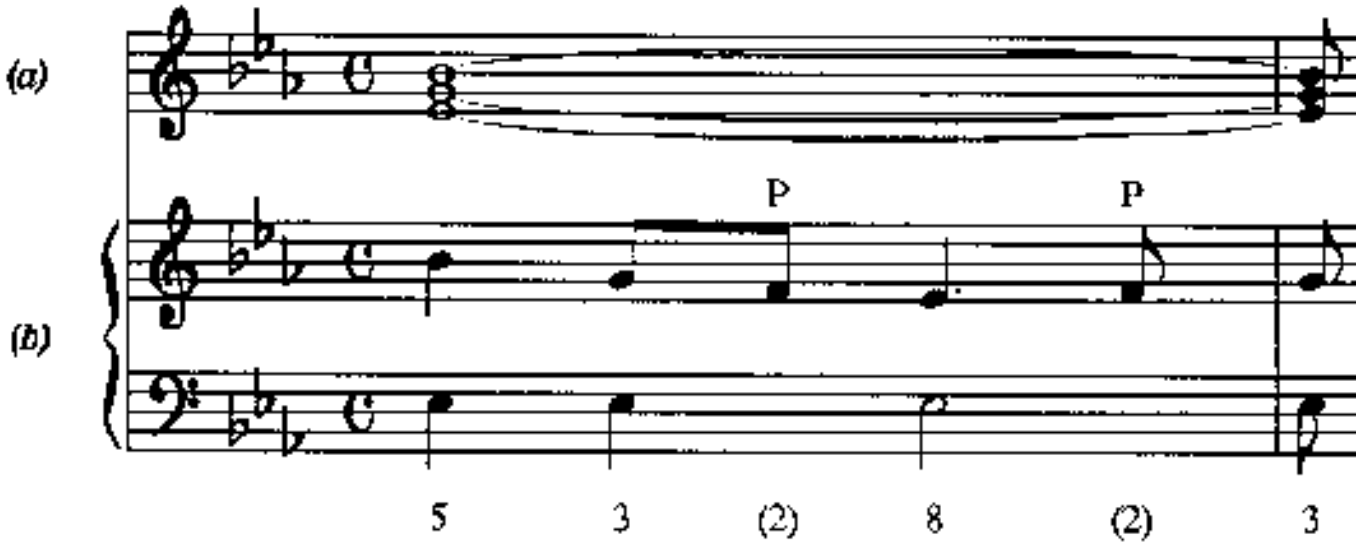
the first. As the lower voice, or bass, this new voice would have to support the unfolding of the upper voice. The bass provides this support with the root of the composed-out triad. In example 6-2, we see the tonic triad (6-2a) unfolded in first species counterpoint (6-2b).

Remember: consonant intervals in first-species counterpoint.

Therefore, in example 6-2b we must omit the dissonant passing note prolongations of example 6-1c.

SECOND SPECIES

Second-species counterpoint permits two notes in the upper voice for each note in the lower. The second note of each pair in the upper voice can be a dissonant passing note--that is, it can result from the prolongation of an arpeggiated interval.) Therefore, a *second*-species unfolding of example 6-1 would allow us to reintroduce the two passing-note prolongations of example 6-1.



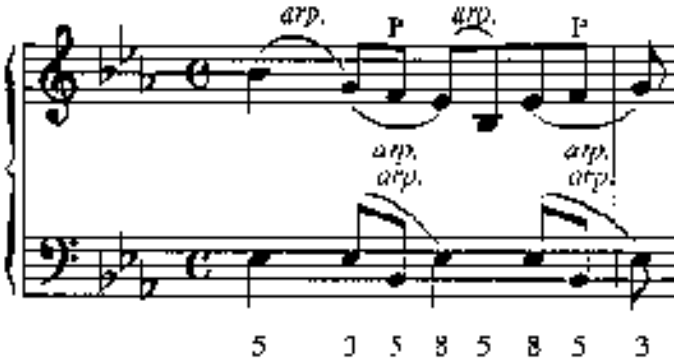
Notice that the dissonant passing notes make perfect sense. We hear them as prolongations of the linear progression 3^-1^ and 1^-3^.

Harmonic progression begins when, to prolong these linear progresions even further, we convert example 6-3 back to first species counterpoint (after we find some way to remove the dissonances).

The Fifth Divider

How can we accomplish this? First-species counterpoint must maintain consonance between the voices. Yet the passing notes of example 6-3 create dissonances against the bass.

By arpeggiation to 5^ in the bass beneath each passing note, we provide *consonant support* for the previously dissonant passing notes (both 2^). At the same time, we continue composing out the basic triad through bass arpeggiation.

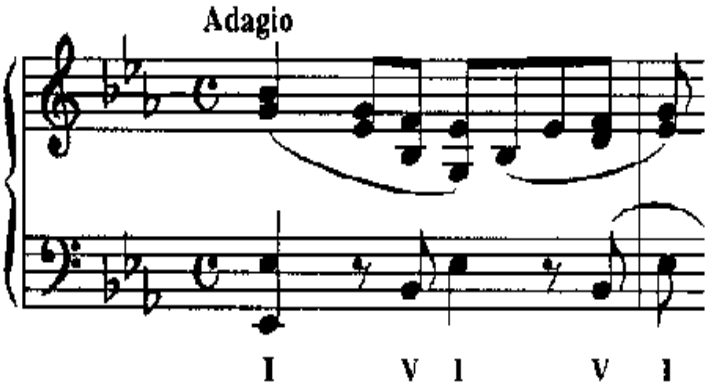


Notice how the new, consonant fifths support the formerly dissonant passing 2^s of example 6-3. We call the harmony that results from the arpeggiation of the bass to 5^ in support of a dissonant passing note the upper-*fifth divider*.

THE UPPER-FIFTH DIVIDER.

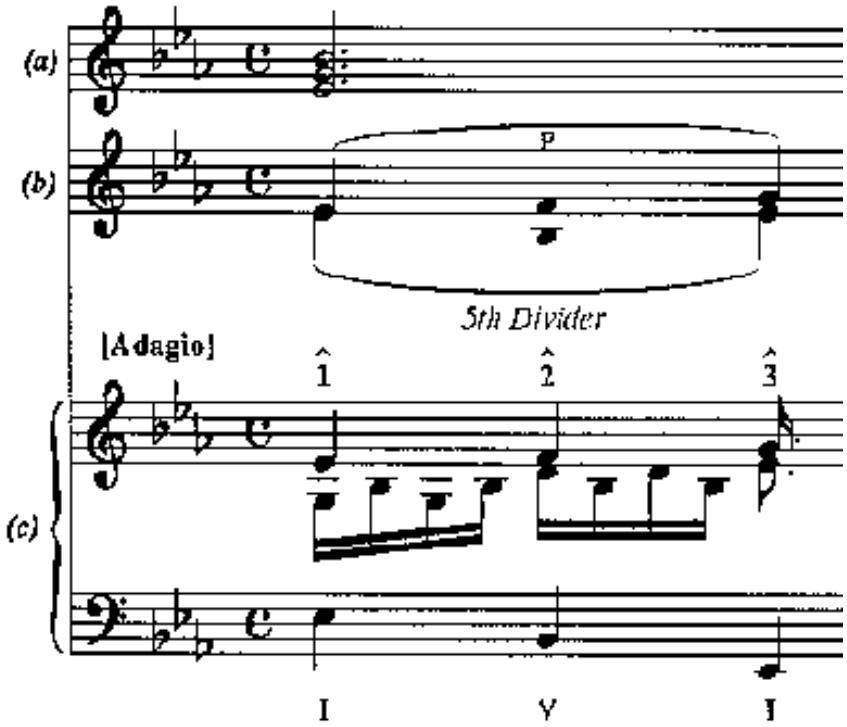
Now each voice arpeggiates intervals from the tonic triad and helps prolong the linear progressions 3^-1^ and

1^-3^. However, the harmonic fifth between bass 5^ and soprano 2^ has no place in the tonic (E-flat) triad. In fact that fifth suggests the dominant triad (B-flat). In the complete version of this measure, we find that dominant triad fully realized.



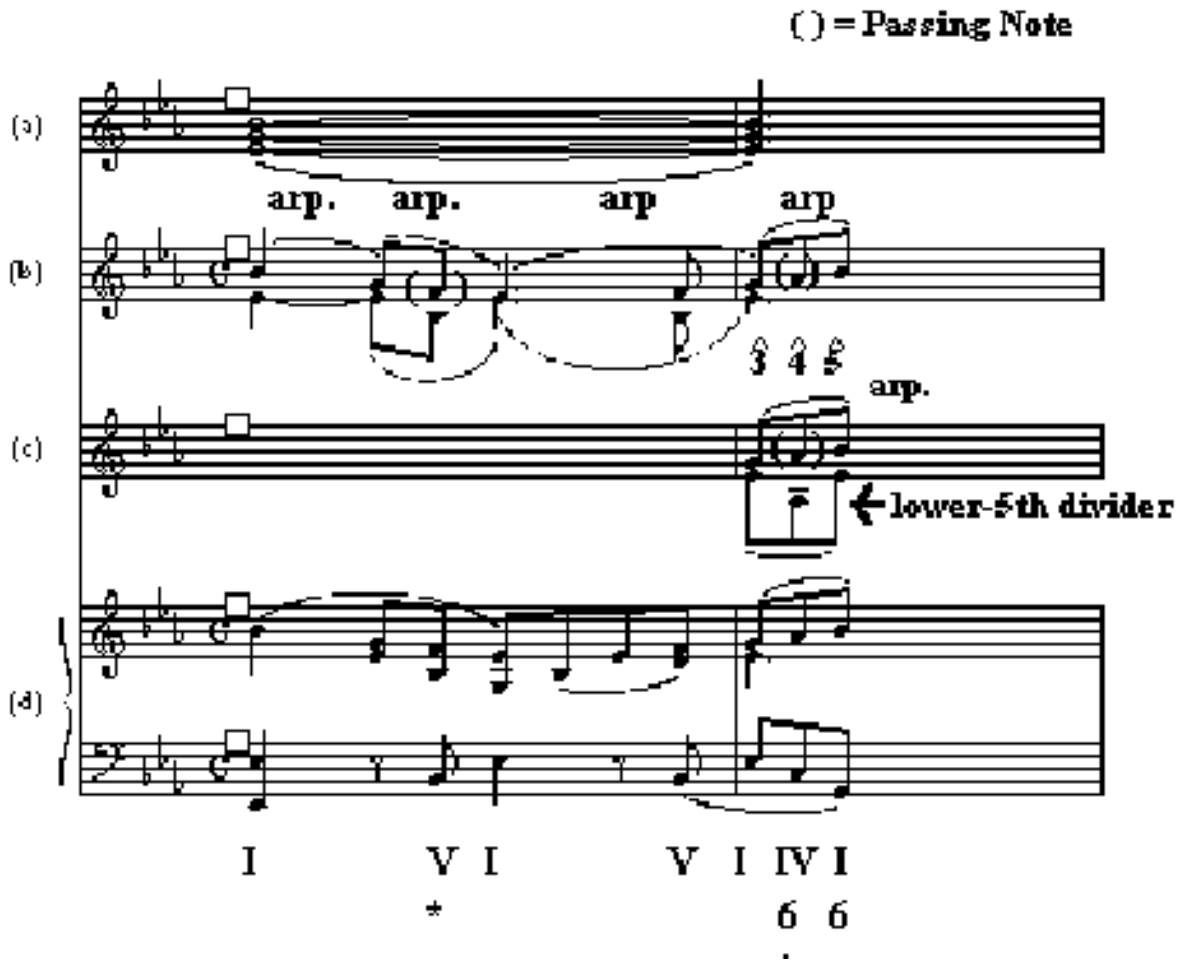
The bass 5^ supports not only a consonant fifth but also, with the second passing note, a complete dominant triad. In example 6-6, a similar prolongation results in a similar upper-fifth divider.

Once again, the arpeggiated bass 5^ creates a dominant triad in support of the passing 2^ in the soprano.



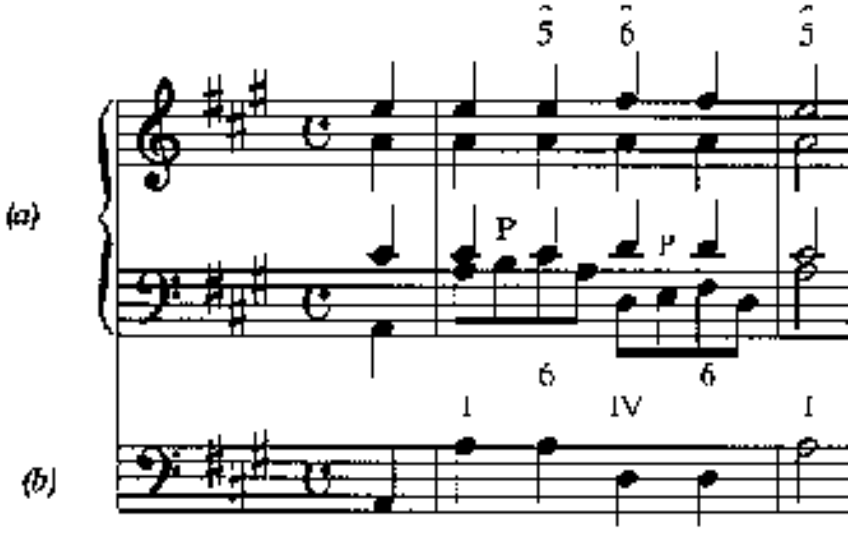
THE LOWER-FIFTH DIVIDER

When 4^ arises as a dissonant passing note, the upper-fifth divider cannot provide consonant support. In fact, no member of the tonic triad can create a consonance below 4^. In this case, composers turn to the lower-fifth of the tonic--4^ itself--to provide consonant support.

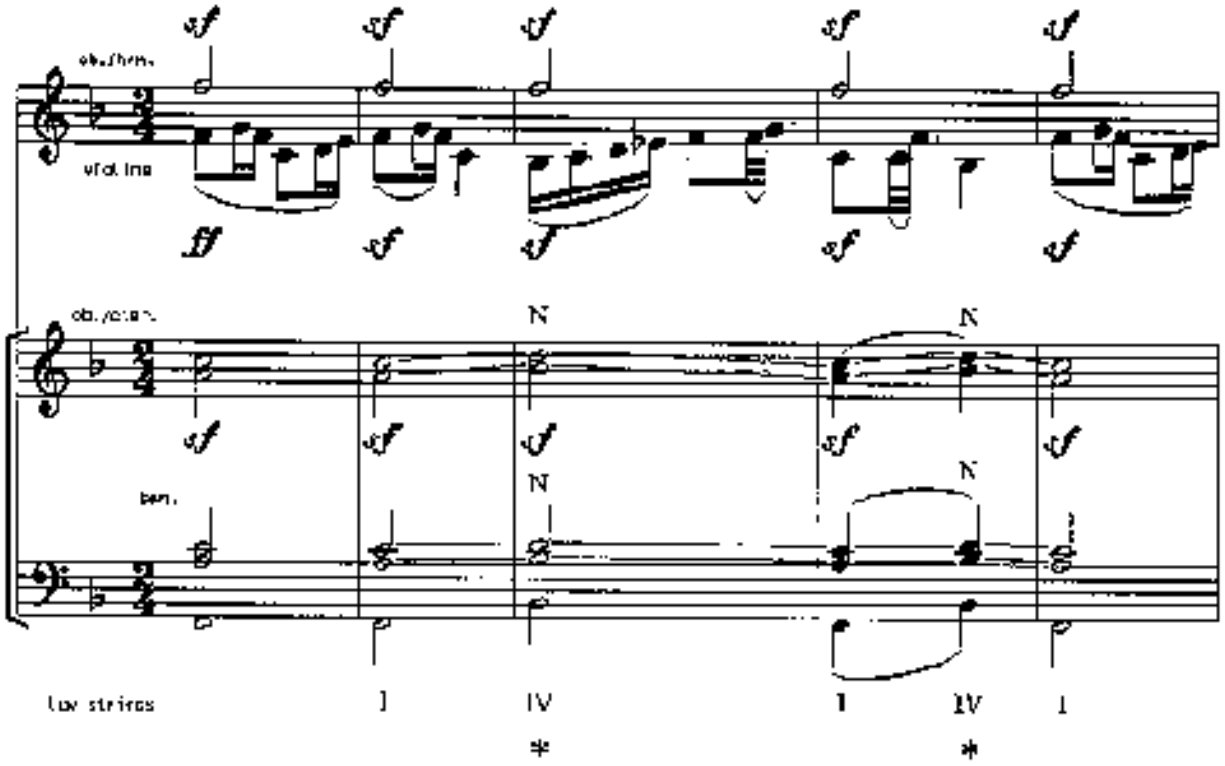


The lower-fifth divider provides consonant support for the ascending passing note 4^ (see example 6-7c). The bass progression from 1^ to 5^ supports two passing notes (2^ and 4^) with the upper-*and* lower-fifth dividers (see example 6-7d).

As a rule, however, the lower-fifth divider (IV) functions best as support for the upper neighbor to 5^, 6^. Example 6-8b outlines the basic progression. Note how IV supports 6^ in the 5^-6^-5^ neighbor-note motion of the soprano.



The following example illustrates the same lower-fifth divider used in support of the upper neighbor to 5^.



FREE STYLE

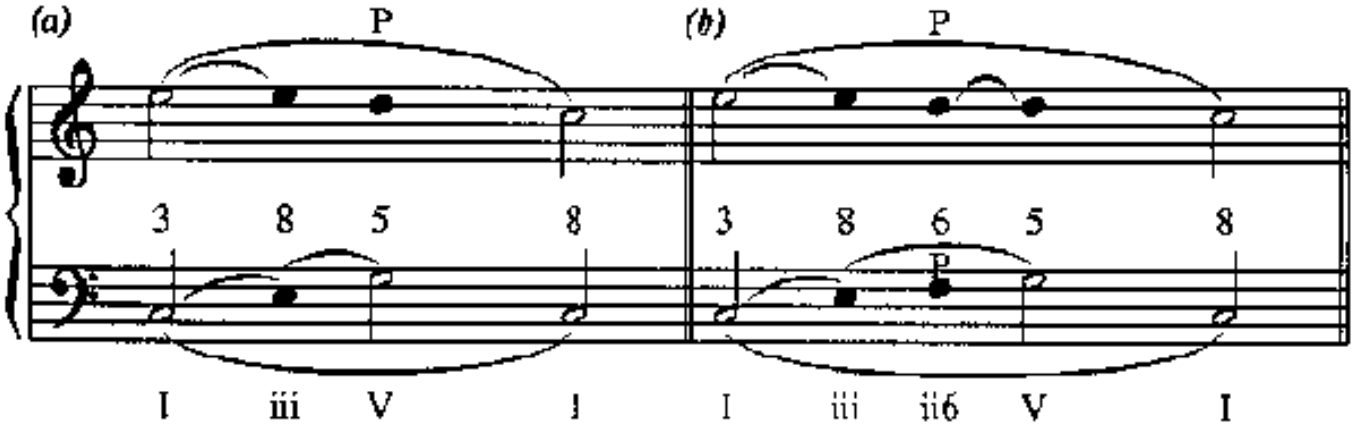
The Beethoven example above and the previous Mozart examples illustrate a style based on both the voice-leading constraints of species counterpoint and the harmonic constraints of chorale style. Yet this composite style is freer and more flexible than either alone. Although we will concentrate on the more constrained chorale style for the moment, we will occasionally refer to realizations in what is called *free style*. For it is in free style that *all* the various techniques of functional tonality find full expression.

The Third Divider

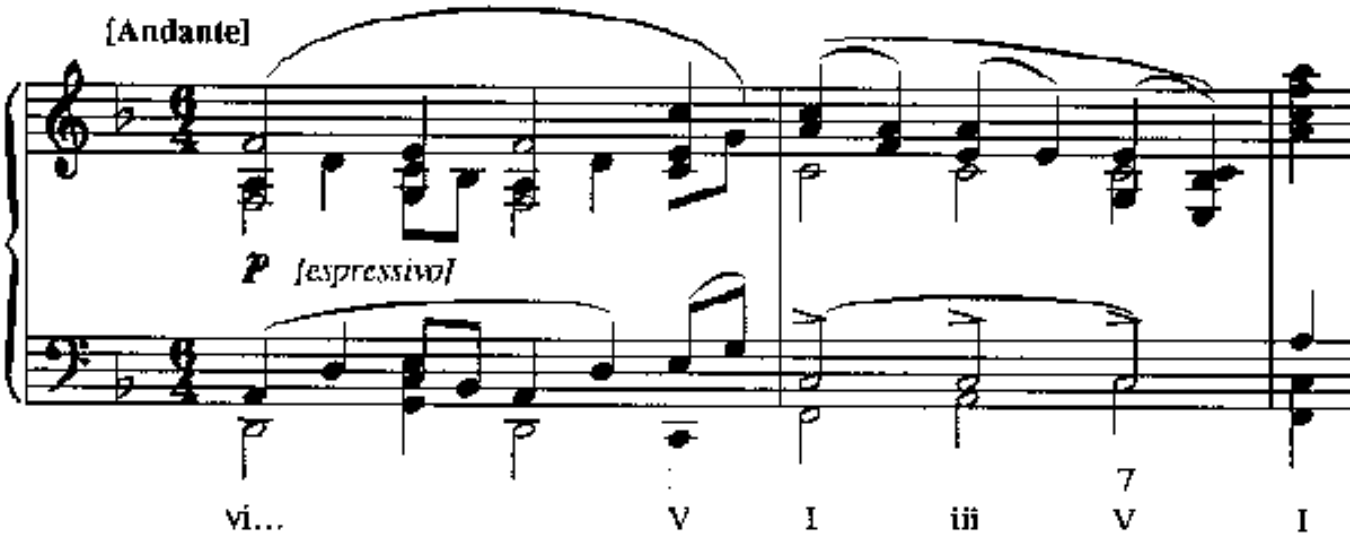
Just as the fifth divider prolongs the repetition of a triad, the third divider prolongs the motion from a triad to its fifth divider. Two third dividers occur frequently: iii as the third divider of the upper-fifth divider I-V, and vi as the third divider of the lower-fifth divider I-IV.

THE UPPER-THIRD DIVIDER

The upper-third divider (I-iii-V) further prolongs the 3^-2^-1^ linear progression already prolonged by the fifth divider (V) that supports 2^ (example 6-10a). This prolongation is often accompanied by a voice-leading ii6 (which we will discuss more thoroughly in the next chapter). The ii6 helps balance the double prolongation of 3^ with double prolongation of 2^ (see example 6-10b).

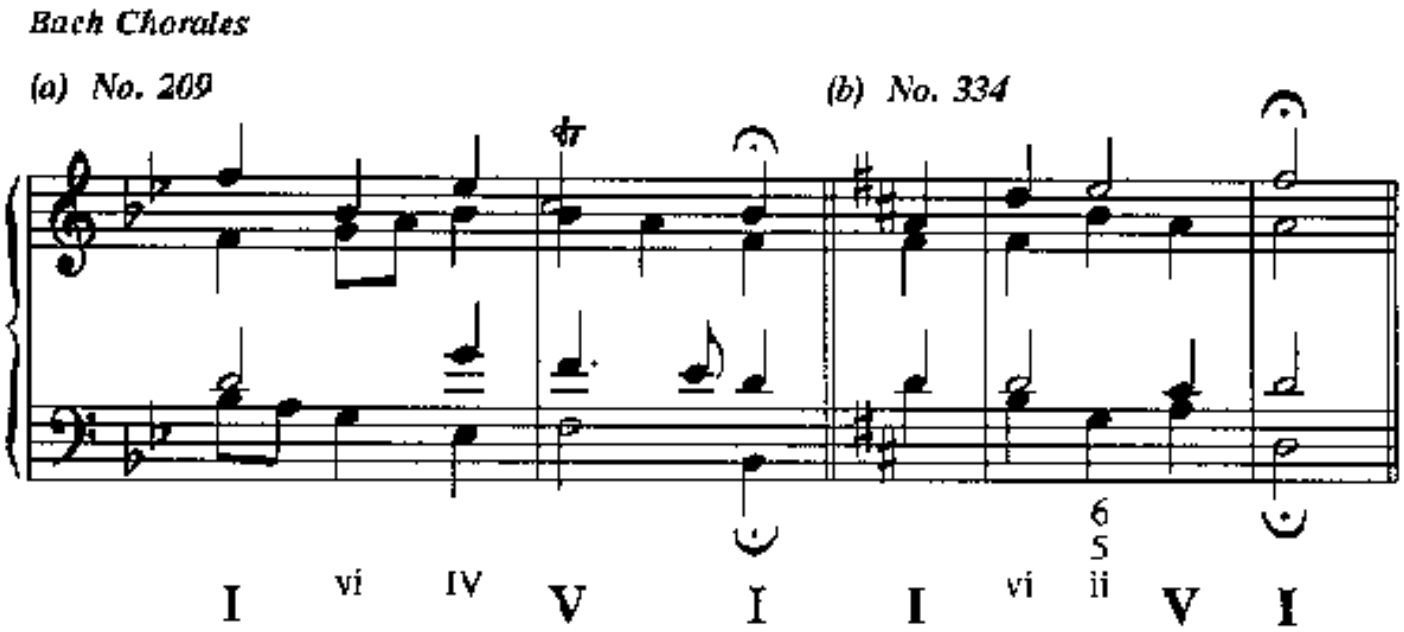


The upper-third divider seldom occurs as a direct progression in chorale style, but we do see it in free style.



THE LOWER-THIRD DIVIDER

Similarly, vi5/3 frequently functions as lower-third divider to the lower-fifth divider 4^. This results in either a I-vi-IV (example 6-12a) or a I-vi-ii6 (example 6-12b) progression.



THE CADENCE

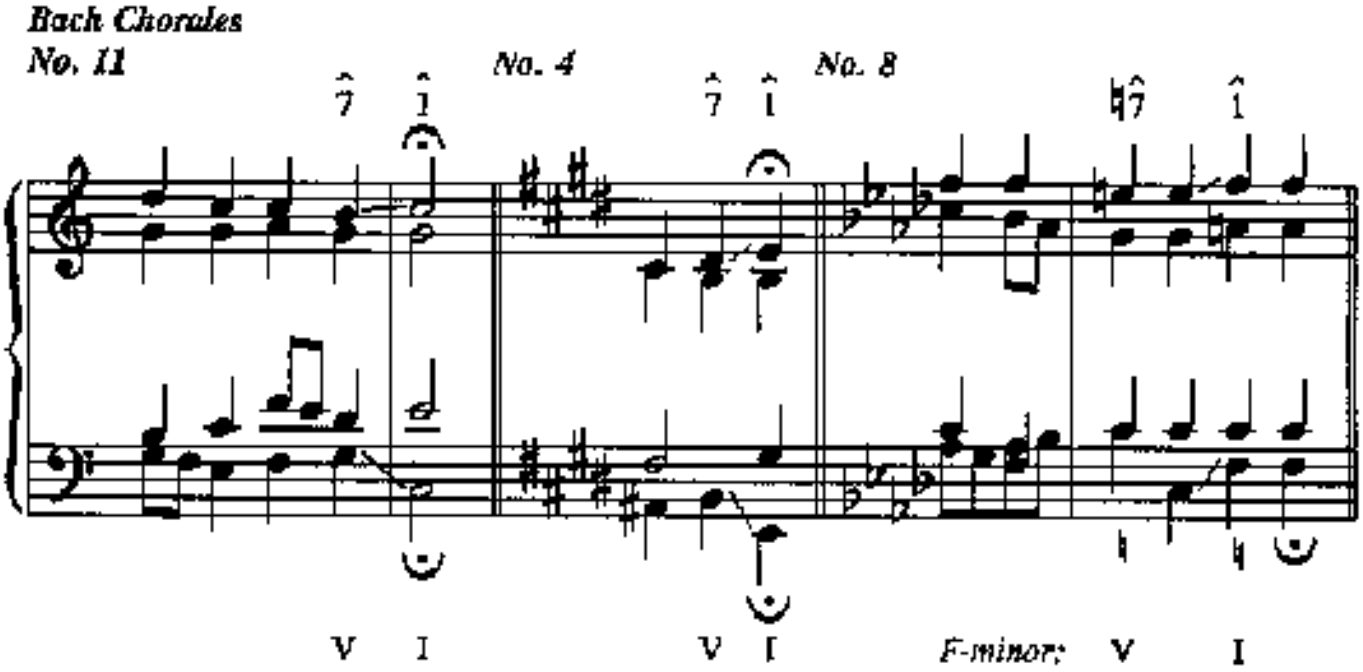
The harmonic and voice-leading formulas that serve as punctuation marks at the end of phrases or compositions are called *cadences*. We will distinguish among three cadences: the *authentic cadence*, the *half cadence*, and the *plagal cadence*.

The Authentic Cadence

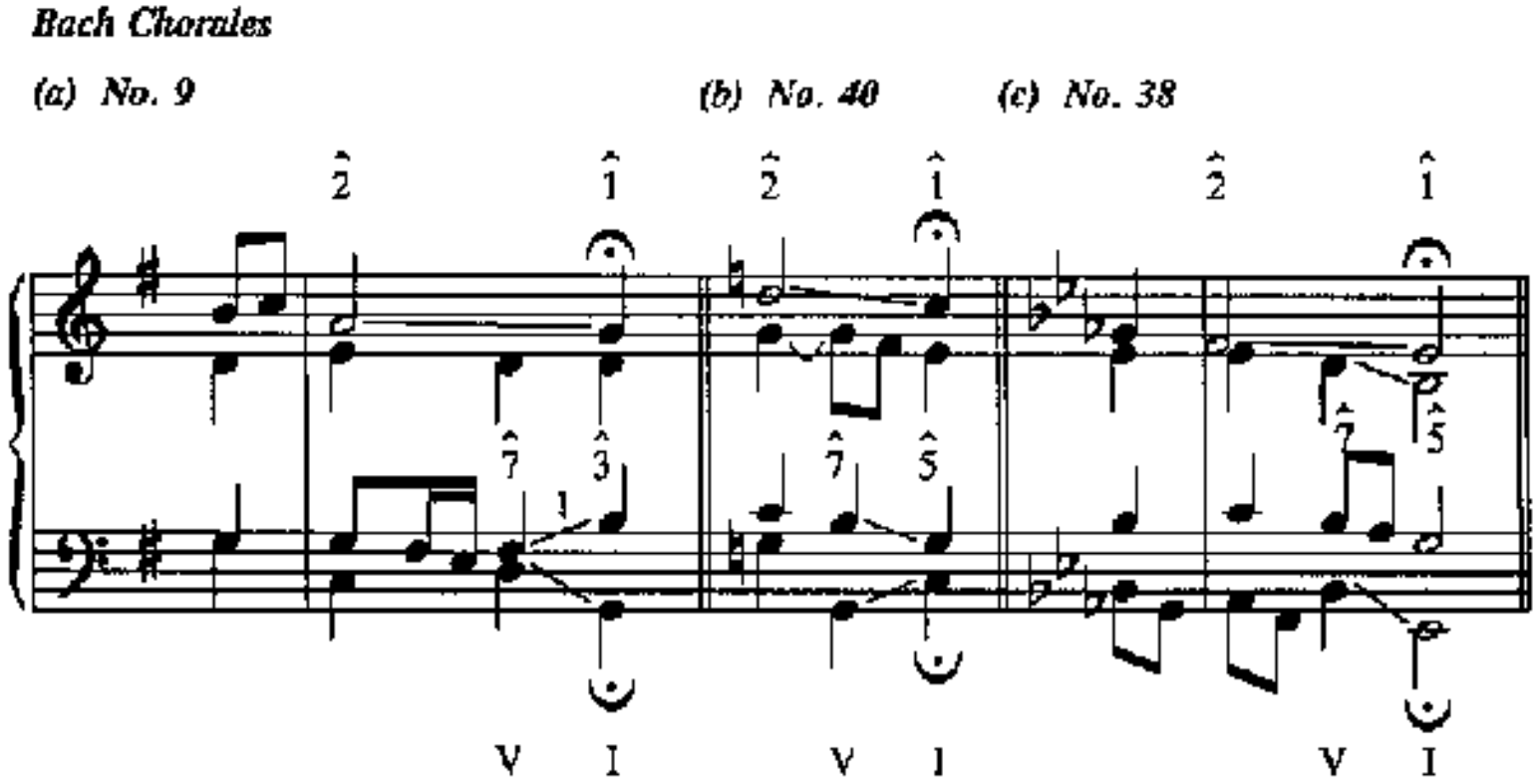
The progression V5/3-I5/3 at the end of a phrase is referred to as an authentic cadence. If the soprano ends on 1^, the cadence is a *perfect* authentic cadence. If the soprano ends on 3^ or 5^, the cadence is an *imperfect* authentic cadence.

THE PERFECT AUTHENTIC CADENCE

In a perfect authentic cadence, a root position V-I progression supports soprano 7^-1^ or 2^-1^. With the former, we find conventional voice leading.



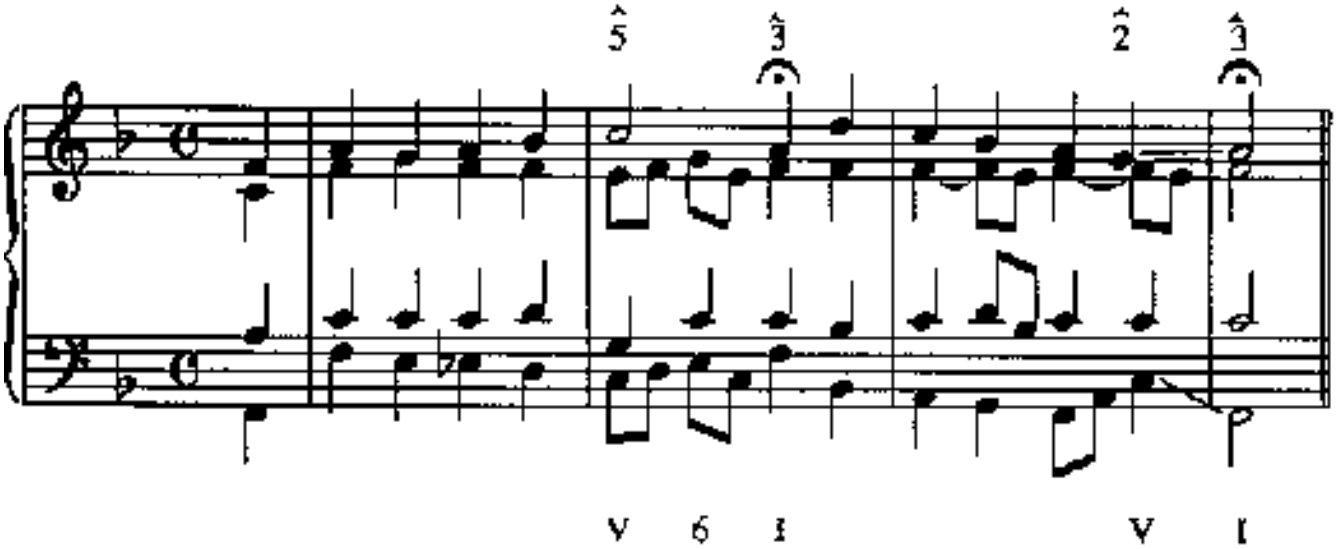
In the Bach chorales, the 2^-1^ motion of the soprano often provokes unusual voice leading in the tenor or alto. The leading tone (7^) sometimes leaps to the third (example 6-14a) or the fifth (example 6-14b). Although unusual, this voice leading does avoid a tripled root and create a complete triad.



THE IMPERFECT AUTHENTIC CADENCE

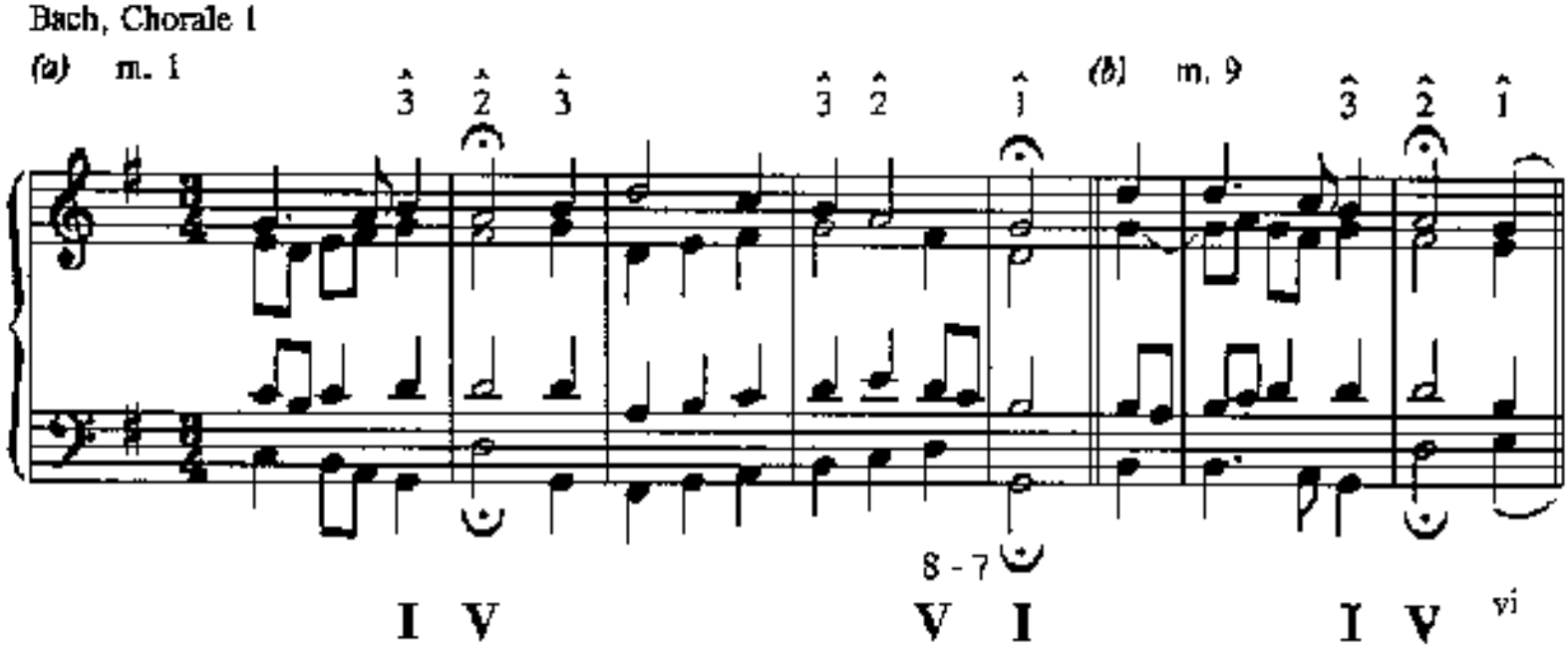
The perfect authentic cadence signals a full stop, whereas the *imperfect* authentic cadence signals a temporary pause or partial stop. *Only when both outer voices reach 1^ together will a musical motion be complete*. Most

imperfect authentic cadences end on 3^ in the soprano. We cannot provide the neighbors of 5^ with consonant support from V. Therefore, most cadences to 5^ will be plagal or half cadences (see below) rather than imperfect authentic cadences.



The Half Cadence

When the prolongation of a linear progression occupies more than a single musical phrase, an interior phrase may end on V. (In example 6-16a and b, the soprano's 3^-2^-1^ motion pauses on 2^. We call the resulting I-V cadence a half (or semi) cadence. (We will discuss the half cadence and associated techniques in a later chapter.)



A half cadence requires completion (to I) in a later phrase. The terminal 2^ of the soprano must eventually complete its passing motion (usually) to 1^. Frequently, it returns first to 3^ (see example 6-16a).

The Plagal Cadence

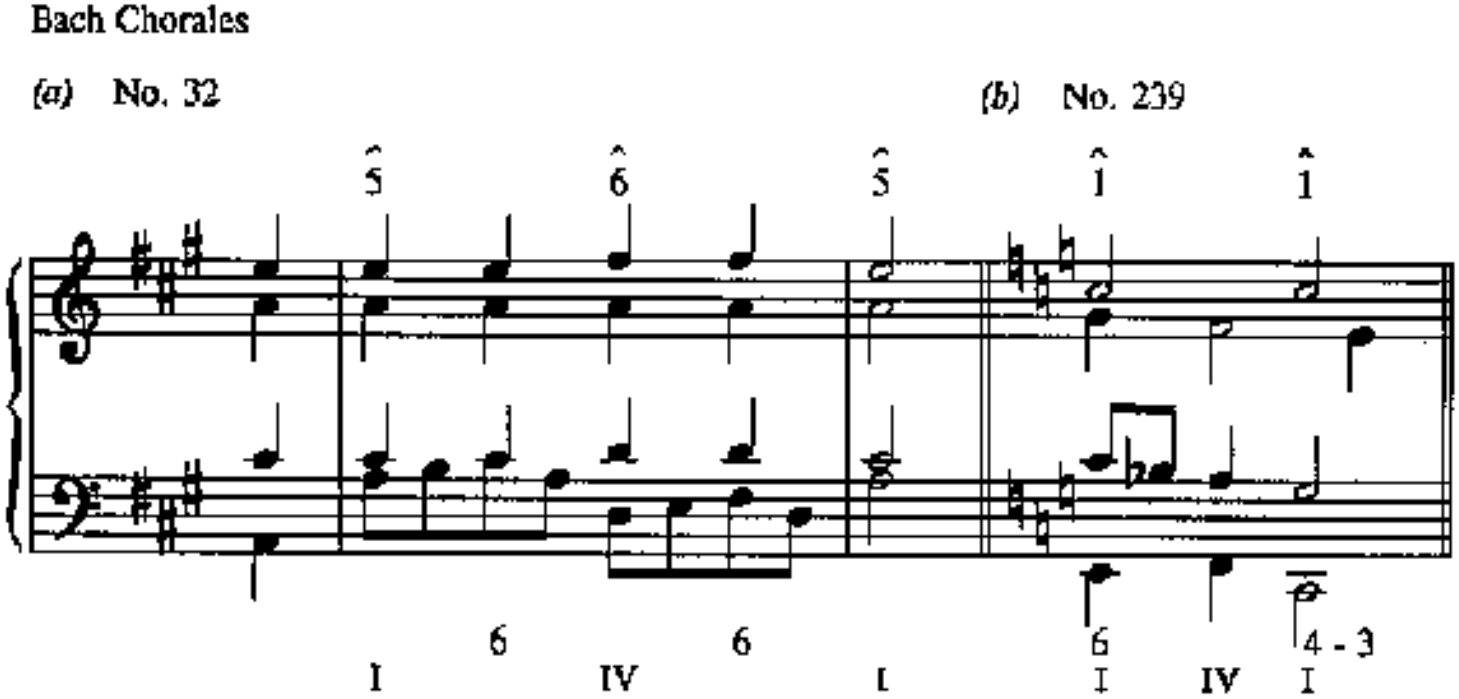
The cadence from the lower-fifth divider to I is called a plagal cadence. The I-IV-I plagal cadence is ambiguous. Is this a plagal cadence in C (I-IV-I) or is it an imperfect authentic cadence in F (I-V- I)? For this reason, we see the plagal cadence rarely and under two conditions: when the soprano cadences to 5^ from its upper neighbor (6^), or at the end of a composition (after the final perfect authentic cadence) and as a final prolongation of the tonic triad.

THE IMPERFECT PLAGAL CADENCE

V contains neither 4^ nor 6^, the neighbors of 5^. The step-wise approach to a terminal 5^ supported by I, then, needs the *lower*-fifth divider, IV. IV contain *both* neighbors to 5^, 4^ and 6^. The plagal cadence results. As a rule, plagal cadences result from a 5^-6^-5^ neighbor motion in the soprano (see example 6-17a).

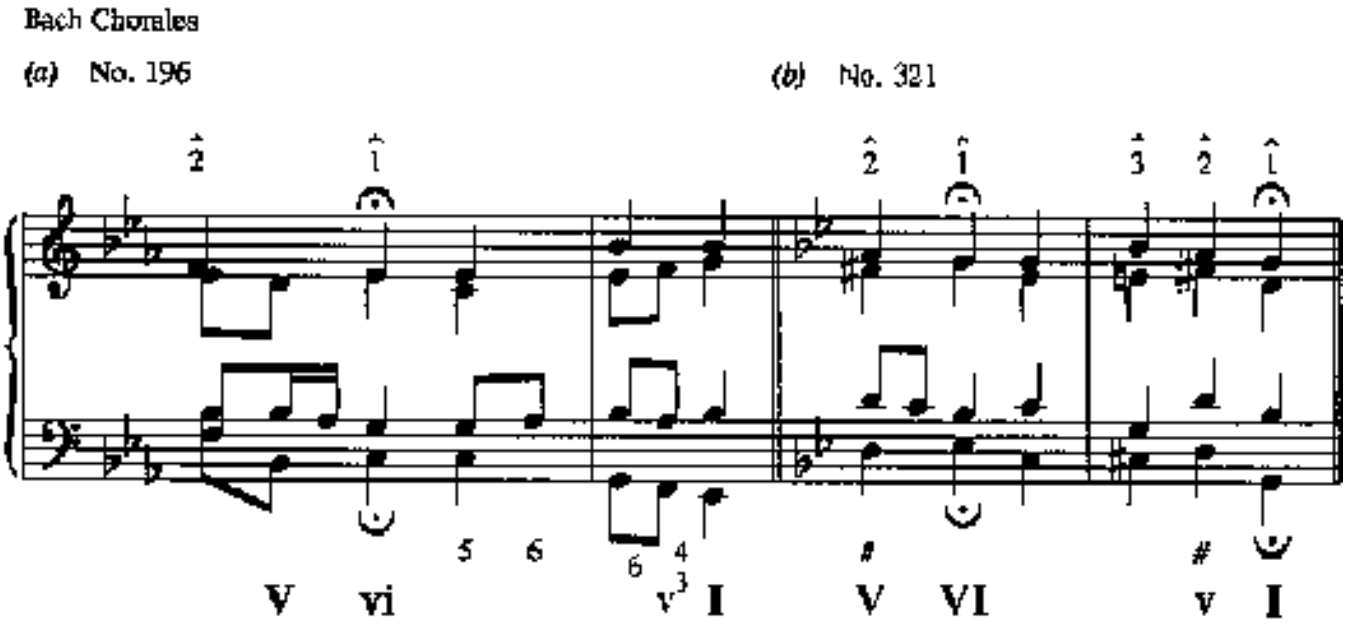
THE PERFECT PLAGAL CADENCE

When a plagal cadence comes at the end of a composition, it usually follows a perfect authentic cadence. It provides lower-fifth-divider support for a repeated soprano 1^. (The familiar "Amen" added to the end of hymns is a cadence of this sort.) As a terminal cadence with 1^ in the soprano, this sort of plagal cadence is called perfect (see example 6-17b).



The Deceptive Cadence

In the imperfect authentic cadence, the bass completes its motion to 1^ but the soprano does not. The deceptive cadence reverses this by allowing the soprano to cadence to 1^ but by stopping the bass on 6^. In fact, the deceptive progression V5/3-vi5/3 allows all the voices (save the bass) to resolve as if to I. The bass, however, moves to 6^--the root of vi and the one member of the vi triad that is not a member of I.



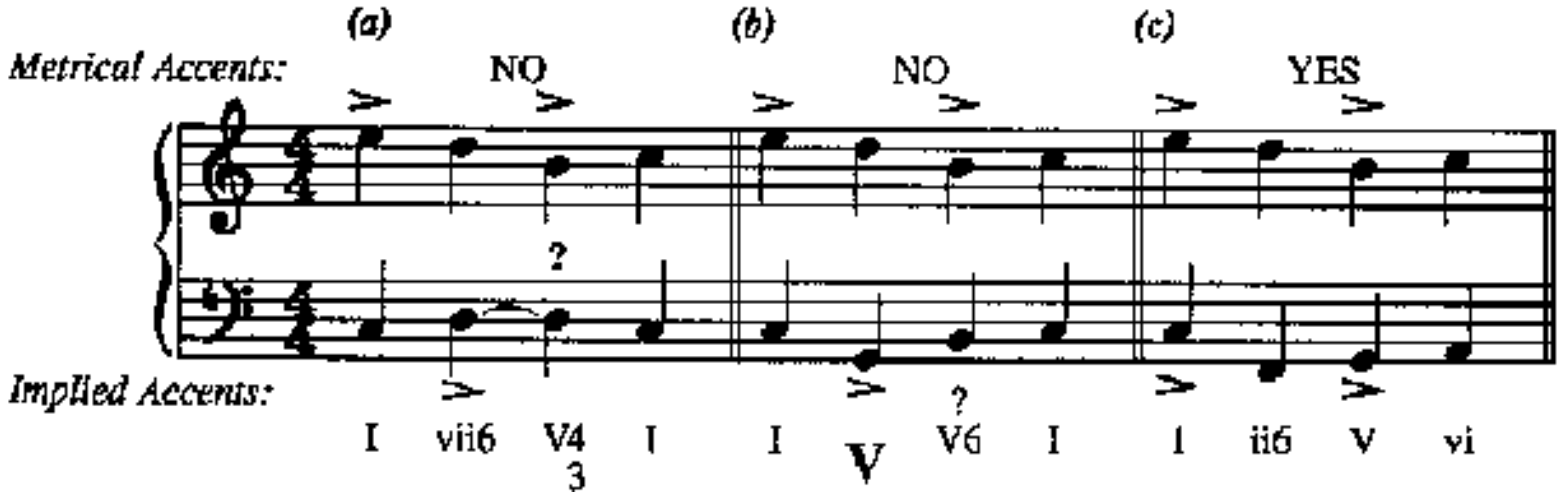
Note that in both examples 6-18a and 6-18b, the upper voices move as if realizing a perfect authentic cadence. The bass move to 6^ creates the "deception." The phrase does not end on the expected terminal I but on vi. Notice that this cadential vi must then complete its inevitable motion back to V and, eventually, to I in a subsequent progression.

METRICAL CONSIDERATIONS

As we have seen, harmonic changes create tonic accents. The accent pattern created by a harmonic progression is the *harmonic rhythm* of the progression. The play of harmonic rhythm with and against the strong-weak metrical accents of any time signature is the stuff of music. We must, therefore, avoid *unintentional* conflicts between the two.

Bass Repetition

In particular, any repeated bass note should repeat from a strong to a weak beat. When we repeat the bass note from weak to strong *even if the harmony changes*, we create a syncopation (see example 6-19a).



Chord Repetition

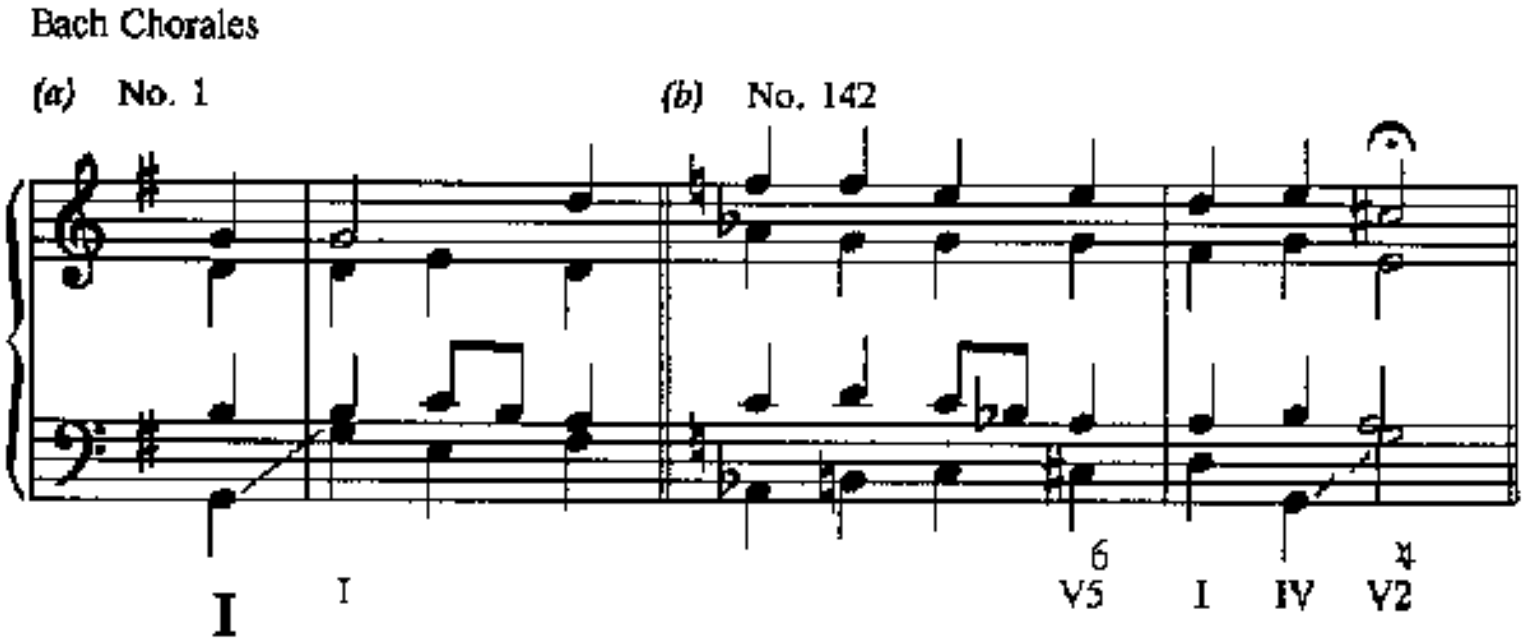
We risk similar accidental syncopations by repeating the same chord in different inversions from a weak to a strong beat (see example 6-19b). Even though the bass changes, the repeated chord diminishes the importance of the metrically strong beat. Itdoes so by accenting the weak beat that begins the chord. We would do better to replace both the bass repetition of 6-19a and the harmonic repetition of 6-19b with discrete harmonies (see example 6-19c). This solution not only removes the unintentional syncopations, but also provides stronger support for the soprano.

Common Exceptions

Free composition abounds with exceptions to the harmonic principles just discussed. As a rule, these exceptions are unique to their context. However, two are so common as to warrant mention here.

OPENING CHORD REPETITION

Often a composition opens with a weak to strong rhythm that we call a *pickup*. These opening weak-strong motions often involve repeated harmonies or bass notes (see example 6-20a).



Notice that the 4 below the final harmony has a slash through it. A slash through a figure indicates that the pitch class represented by that figure has been raised by a half step.

Appendix J outlines the conventions and abbreviations of figured-bass notation.

BASS REPETITION INTO A DISSONANCE

We may repeat a bass note from a strong to a weak beat *if* the second bass note is dissonant. This is most often the case with a bass suspension (see example 6-20b). We will discuss suspensions further in a later chapter.) The bass dissonance generates a tonic accent that reinforces the naturally occurring metrical accent.

Summary

We can compose out the tonic triad by unfolding it in time through arpeggiation. We may prolong it by inserting passing or neighboring notes between members of the arpeggiated triad.

We support passing and neighboring notes between root, third, and fifth by bass arpeggiations to the upper-fifth divider. We may compose out the upper-fifth divider by arpeggiating up to it through the upper-third divider. Authentic and half cadences result from a terminal bass arpeggiation to the upper-fifth divider and back to the tonic.

The lower-fifth divider supports neighboring notes to the tonic triad. We may prolong the motion to the lower-fifth diider by arpeggiating down to it through the lower-third divider.

Half Cadences arise when we end the passing motion 3^-2^-1^ prematurely on 2^, completing the motion to 1^ in a later progression.

When we cadence to I from IV, we create a plagal cadence. A plagal cadence beneath repeated 1^s is perfect. A plagal cadence beneath 6^-5^ is imperfect.

The deceptive cadence completes all voice-leading motions from V (or V7) to I except in the bass. It substitutes the lower-third divider (vi) for I, and 6^ for 1^ in the bass. The composing out of the lower fifth or a direct return to V follows in a later progression.

Avoid repeating a chord or a bass note from a weak to a strong beat. Such repetition could result in unintentional syncopations.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapters 6, 8, 9, 11, and 13.
- Jonas, Oswald. *Introduction to the Theory of Heinrich Schenker*. Translated and edited by John Rothgeb. New York: Longman, 1982. Chapter 2-3.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 3.
- Salzer, Felix. *Structural Hearing*. New York: Dover, 1962. Chapter 2-5.
- Schenker, Heinrich. *Harmony*. Edited by Osald Jonas. Translated by Elisabeth Mann Borgese. Chicago: University of Chicago Press, 1980. Division II, Sections I-III.
- Schoenberg, Arnold. *Structural Functions of Harmony*. Rev. ed. Edited by Leonard Stein. New York: Norton, 1969. Chapters 1-2.
- Schoenberg, Arnold. *Theory of Harmony*. Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Chapter 4.

Williams, Edgar W. *Harmony and Voice Leading*. New York: HarperCollins, 1992. Chapter 6.

top | bottom | next chapter | previous chapter

Procedure for Composing a Simple, Metric, Tonal Melodic Line

Composing the Metric Structure | Composing the Cadences | Composing the rest of the pitches | Range | Dissonance | Motion | Bottom

I. Compose the Rhythm and the Metric Structure

In this course we want to compose common-practice tonal tunes. This requires that we compose relationships between pitches and harmonies that result in a perceptable, coherent, balanced, and well integrated metric structure. (First read Meter and Metric Structure, (Gutwein)) We will use as models, the sentence and the period (see Phrase Structure (Williams)). For now, we will concentrate on the period.

The Period

Broadly defined as a passage typically consisting of two equal-length phrases, the **antecedent phrase** and the **consequent phrase.** Each phrase is often a multiple of 2 measures in length, usually 4-6 measures. These units are called **subphrases**. The consequent phrase is often the longer than the antecedent. The harmonic structure of the period depends upon the harmonic beginnings and endings (or cadences) of its phrases. These work together to produce phrases that are more or less harmonically dependant upon each other for completion. More on the specific harmonic designs later.

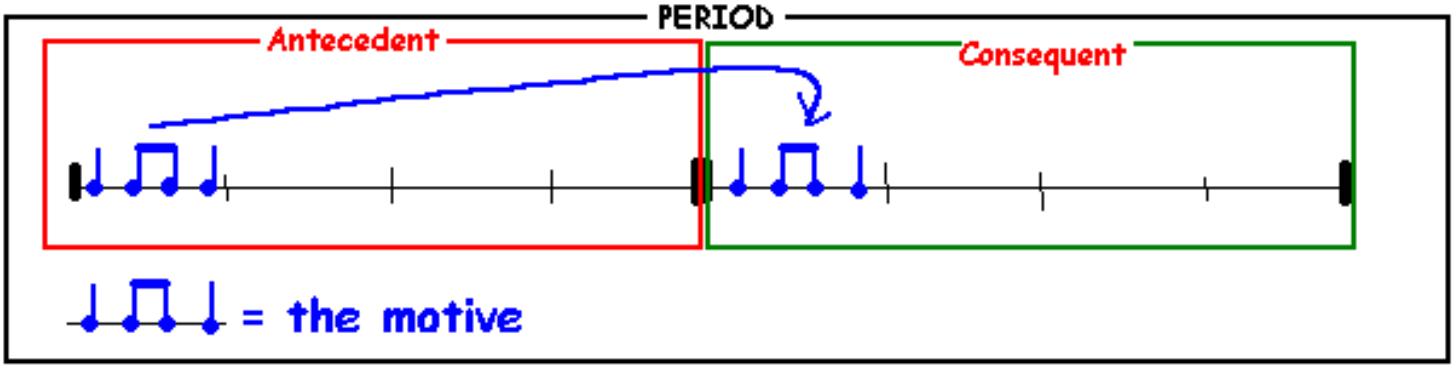
Period Coherence:

We bind the two phrases together into a coherent whole through:

- the systematic application of **rhythmic motives.** (See examples analyzed in class.)
- the application of particular **cadential formulas** at antecedent and consequent phrase endings. (See **more exaples**)
- the use of rhythmically self-contained **subphrases** consisting of agogic-accent, toic-accent, and measure-length rhythmic patterns that clearly articulate measure boudaries.

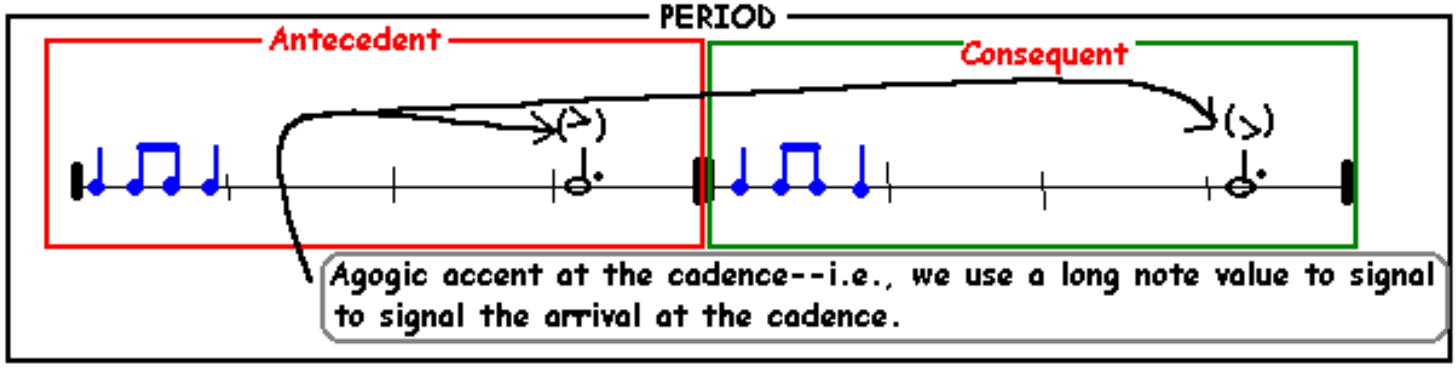
The Procedure

1. **Create a grand staff and place barlines for two four-measure phrases on the staff**
2. **Above the grand staff, write the sketch of an opening motive for the antecedent phrase**. The rhythm should confirm the meter through use of agogic accent. This is called the **head motive**. It can be used to create phrase coherence by **repeating it** at the beginning of the consequent phrase, where it is often transposed to a level in keeping with the "local harmony" there. This establishes a **parallel relationship** between antecedent and consequent.

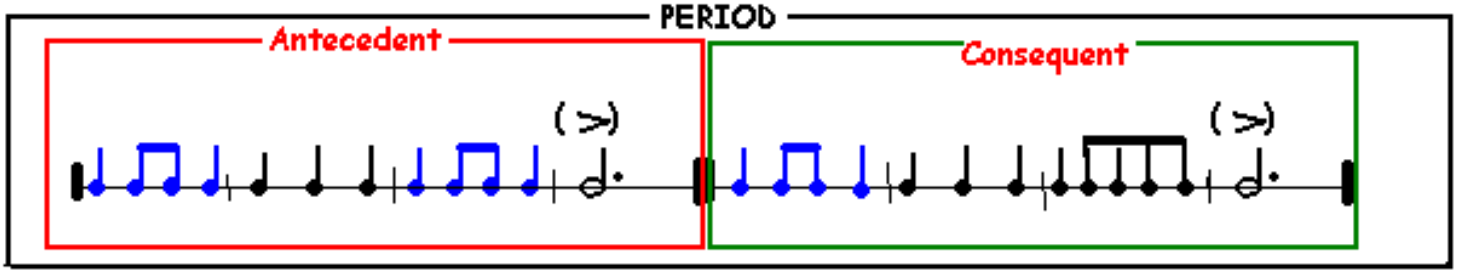


3. A rhythnically **contrasting relationship** between antecedent and consequent phrases can be produced by using a different head motive in each phrase but repeating each at the beginning of the 2nd subphrase of each phrase.

4. **Establish a rhythmic cadence at the end of each phrase:** : To do this, we want to establish and emphasize the cadence through agogic accent--here, that simply means to give it a long note value. (See class notes for other possibilities.)



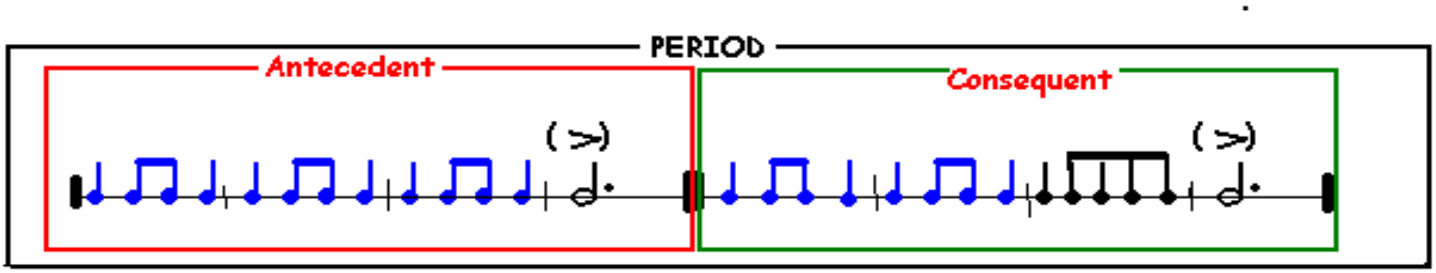
5. Rhythmic values often speed up (become shorter), just prior to the cadence. The effect, paradoxically, forces us to concentrate our attention into a smaller time-span, thus slowing down our perceptions of the phrase overall and creating a sense of delayed arrival, making the cadential note seem longer. We might realize that as follows:



Another way to integrate rhythmic materials in the first phrase is to use the head-motive itself to approach the cadence in the antecedent, then add another eighth note in the consequent in order to create an even greater sense of tumbling into the cadence. (If the rhythm is changed for the second cadence, is generally speeded up--that is a longer note value divided into smaller parts in order to enhance the effectiveness of the

cadence.) In any event, **the fundamental rhythm of each cadence should be similar**. Later in or study of form, a more dramatic contrast of rhythms will be used to distinguish one period from another in multiperiod structures.

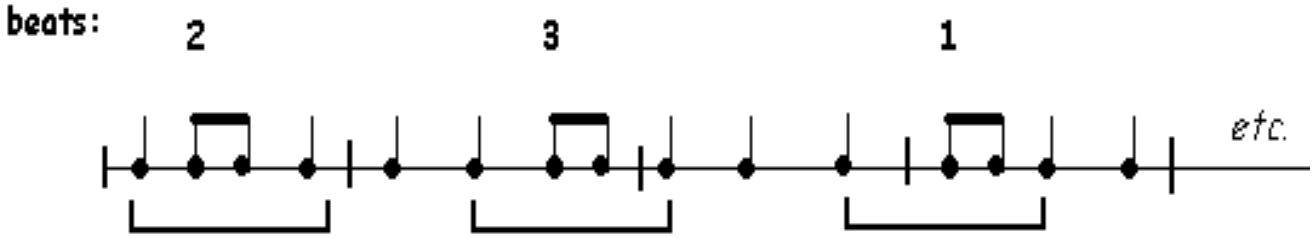
6. **Fill in the remaining measure of each phrase**, being sure to confirm (not contradict) the meter. We might do this by simply insert quarter notes:



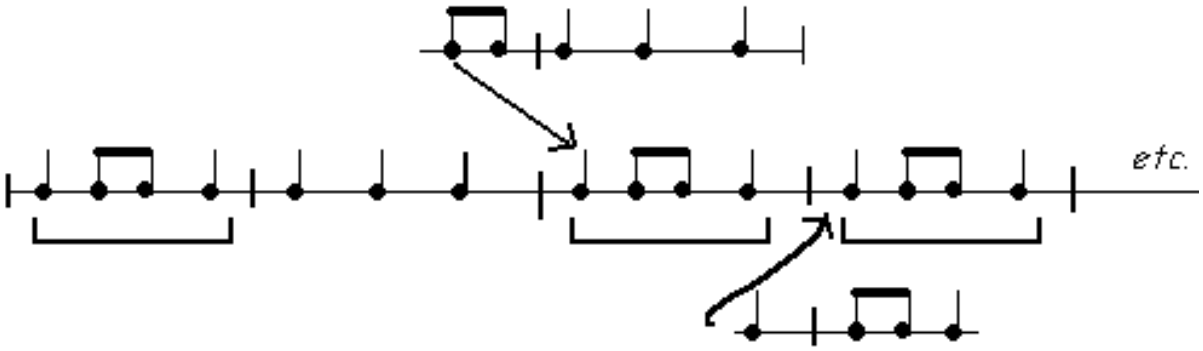
Or, by inserting the motive once again:

AVOID WRITING METRICALLY CONFUSING PATTERNS:

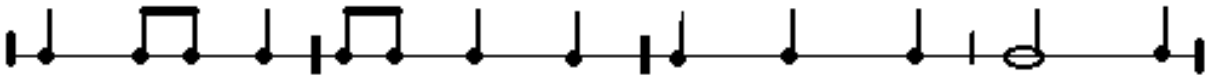
What we want to avoid is something like the following. Below, the repeated eighths notes are all that articulate a string of quarters. If we are to establish the meter, we must rely upon (and not frustrate) our minds' pattern seeking efforts. We willl hear the first quarter-note as the beginning of a pattern and the following pair of eighth notes as a continuation of that pattern. Unless we encounter a dramatic contrast, we will identify the recurance that rhythm as the beginning of a repeated pattern, thus making the pattern four beats long (even if we intended our listeners to perceive simple triple meter). Since the quarter and two eights return on the 5th beat, we end up perceiving simple quadruple rather than simple triple. This confusion will continue as long as the patten length does not match the meter.



However, if we were to add two more quarter notes to measure 2, thus pushing the repeated eighth notes of the above figure onto the second beat of measure 3 (see below), suddenly we are able to hear the meter, the eighths have the same metric locations, and the tune seems to all of a sudden come to life.



Most music plays with our perceptions of meter and is not as predictable as the repetitious rhythm above. When we have the forces of harmonic progression and pitch-pattern-contour working to continuously to confirm the meter, we can take the liberty to construct rhythms like the one below. Here we have a two-beat pattern that repeats, producing the perception of simple duple meter. If we use harmonic progression and pitch-pattern-contour to establish the meter in the first two measures, we can "get away with" the metric complexity. Notice that the third and fourth measures reestablish simple triple, even at the level of simple rhythmic duration.



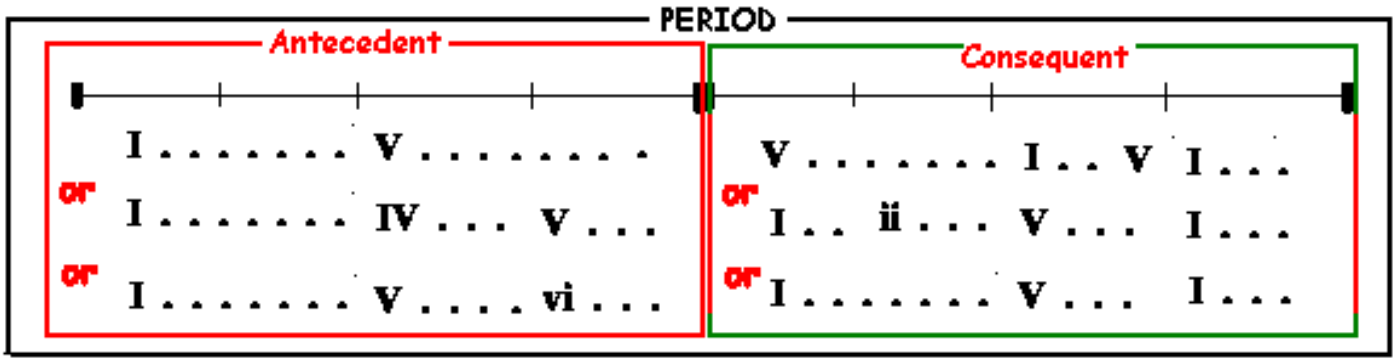
II. Compose the Pitches for each Cadence

1. Your period **must begin and end on , the tonic**, and it must begin and end ***in the same octave***.
2. **Determine the type of each cadence** (internal and final) and ask youself how your choices effect the coherance of the period. (See Basic Harmonic Grammer: The Cadence (Williams), and review class notes for rudimentary harmonic designs for phrases.)
3. **Notate the cadential formula in both voices**:
    1. (You have already provided agogic accents for each cadence.)
    2. **Guidelines for the bass-voice**: for now, the approach and cadential base-notes for all cadences must involve leaps of descending P5ths (or ascending P4ths). The only exceptions are the deceptive cadence (V vi in major, or V VI in minor), and the half cadence when preceded by IV in major or iv in minor.
    3. **Guidelines for the melody-voice**, the approach to the final tonic must be by step, usually from above.
        - The antecedent phrase: (or an interior phrase of a sentence) --may end on scale-degrees **1**, **3**, **5** (of the tonic triad), **5, 7, 2** (of the dominant triad) or **1,** or **6** (of the submediant triad). Try to approach the cadence using stepwise motion. If the cadential measure unfolds only a single triad like **V,** the cadential note may be a part of the arpeggiation of that triad; thus approached by leap.
        - The consequent phrase always cadences on tonic (for now). The following approaches are typical:
            - (**3, 2, 1**),
            - (changing-tones **2, 7,** to **1** or **7, 2, 1**),
            -

or in some cases (appogiatura figures **5, 7, 1** or **4, 7, 1**)

III. "Compose-out" the pitches for the rest of the line

1. Since we have not yet learned how to design harmonic progressions that clearly distinguish and articulate measures, subphrases, and phrases, you will be provided a harmonic plan by your instructor similar to one of the following three:



2. When composing-out each triad,use the methods for Unfolding and Embellishing Consonances, (Gutwein's handout)
3. Place harmonically stable pitches on conventionally strong metric divisions, and place embellishments (or in a minority of cases, other stable tones) on the conventionally weak metric divisions.
4. When progressing from triad to triad use the methods described in Guidelines for Progressing from Triad to Triad when Writing a Single Melodic Line (Gutwein's handout)

Range

1. The vertical range must not exceed a tenth; it need be no more than an octave or even a sixth. The smaller the vertical range (or *tessitura*) of your tune, the easier it will be for you to control it.
2. Your tune must contain a registral climax--a single highest pitch:
    1. The climax may not be repeated.
    2. If not a member of the tonic triad, the climax must easily be understood as a P or N to a member of the tonic triad. However, , the leading tone, makes a poor upper climax because it points *up* to . That upper climax should be either a stable tone (member of the tonic triad) or one that points downward (, which points down to ; , which points down to ; or [especially in the minor], which points down to .

Dissonance and Chromaticism

3. No chromatically altered notes may be used except raised and in the minor when required to create or approach the leading tone and tonic.
4. Don't leap to tones that are not in the current triad being unfolded, unless the leap is treated like an embellishment.
5. Avoid the augmented 2nd in harmonic minor.
6. Avoid the augmented 4th from scale-degree **4** ascending to **7**
7. The diminished 5th from scale-degree **7** ascending to **4** can be used if **4** is resolved **down** by step to **3.**

Motion

8. ***The line should move predominantly by step***, but it should also contain two to four leaps.
9. No leaps larger than an octave.
10. **Two or more consecutive leaps in the same direction must outline the same scale-degree triad**, NOT members of different triads. This is prohibited! **If arpeggiating the 2nd of two triads in succession**, leap in the opposite direction to the 1st note of the 2nd triad. To leap in same direction to that note suggests that it is a component of the preceding triad, and that would be confusing..
11. **A leap of a fifth or more should be followed by a step in the opposite direction**. It should be a part of an appogiature. (See this on how to handle leaps in a line.)
12. **The direction of the line shouldl change several times**. Five notes in one direction is usually the maximum, whether the motion is all stepwise or consists of a mixture of steps and leaps. Motion of only two or three notes between changes of direction should be common.
13. **The notes which begin and end a motion** in one direction (contour notes) must not be dissonant one to the other; or, if they are, must resolve as if they were adjacent one to another.
14. **Repeated notes should repeat from a strong to a weak stress**, not weak to strong.

Top | Composing the Metric Structure | Composing the Cadences | Composing the rest of the pitches | Range | Dissonance | Motion

.top | bottom | next chapter | previous chapter

The Minor Mode

The minor mode requires special attention. First, the altered notes create complex and dissonant relations not present in the major. Second, without these altered notes, the minor will pull to its relative major. We must learn to use these altered notes without creating unwanted linear dissonances or unintended shifts in key.

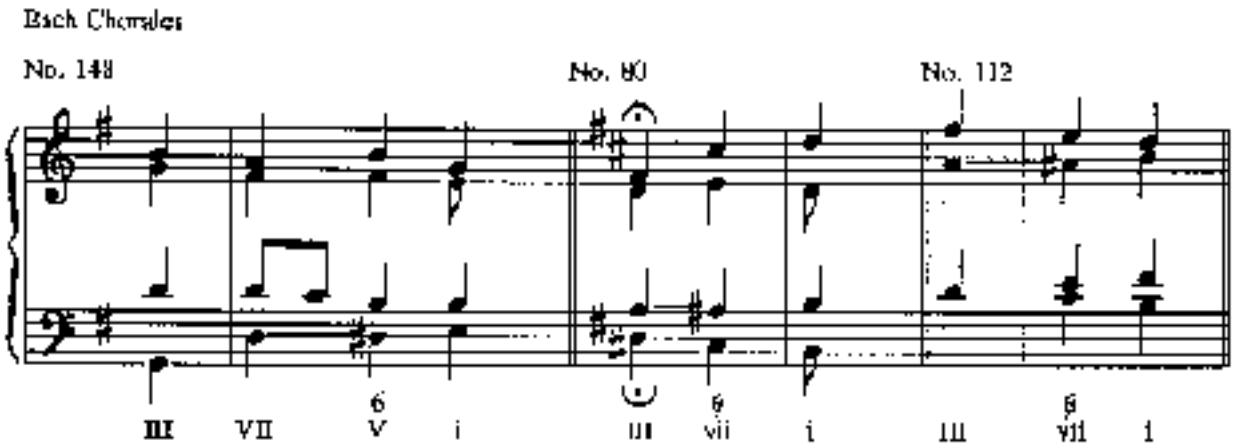
ALTERED NOTES

In the proper context, we may raise both the sixth and seventh scale degrees of a minor key.

Cross-relations

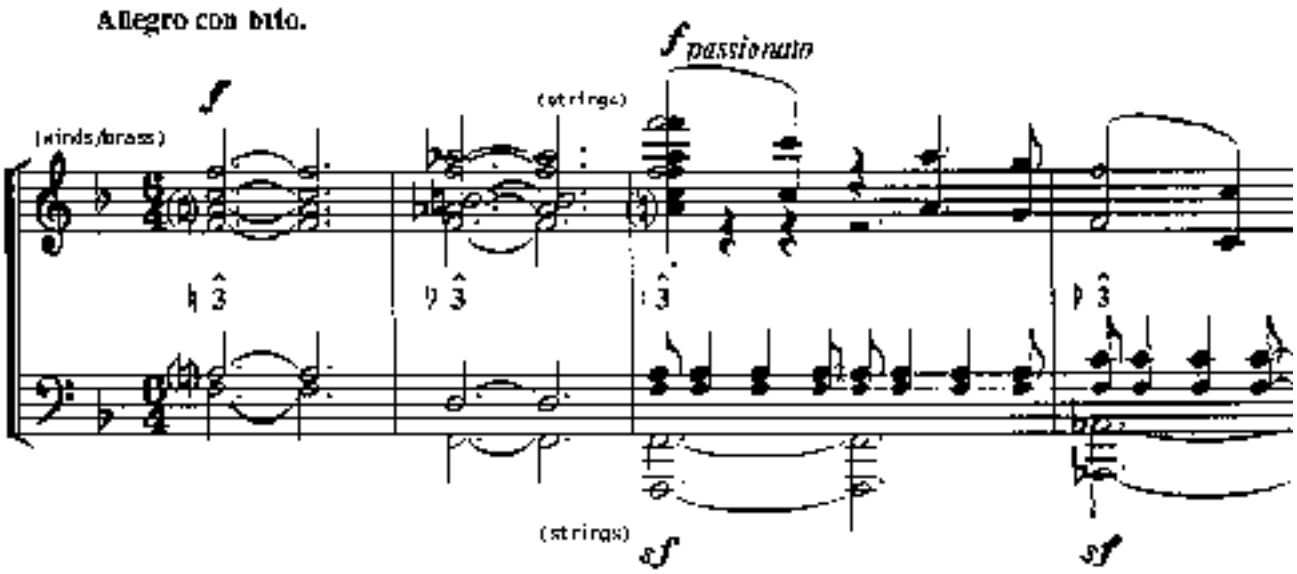
In successive harmonies, if the same scale degree appears in two different forms, we have a *cross-relation*. When, say, , we are uncertain of the exact nature of the seventh scale degree and, for that matter, of the key. However, if we maintain the cross-relation in the same voice, the ambiguity resolves itself in the voice leading.

As a rule, you should avoid cross-relations except when they arise in a single voice, as they do in each of the three excerpts of example 9-1.



Ex. 9-1--Cross-relations in Chorale Style

In free style, composers often use the cross-relation between outer voices for dramatic effect.

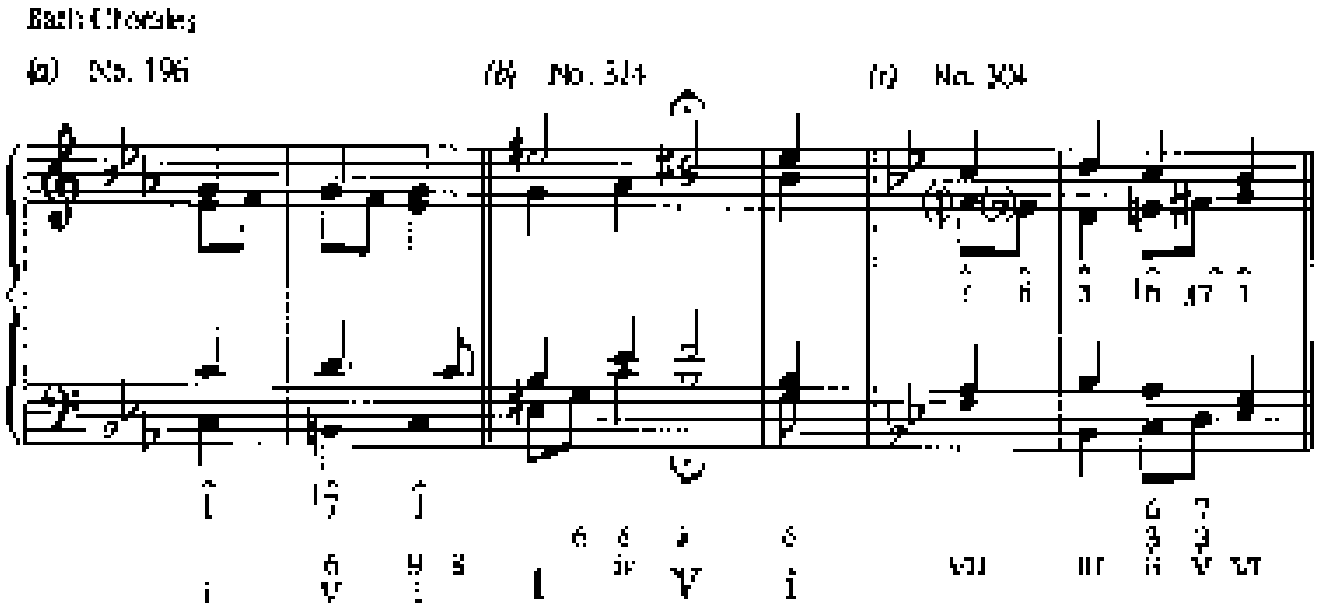


Ex. 9-2--Brahms, Symphony No. 3, first movement

Each measure of example 9-2 gives us a new version of the third scale degree (A). We can follow the changes from one measure to the next until, in the fourth measure, the A-natural in the highest voice shifts to the A-flat in the lowest.

Seventh Scale Degree in the Minor

A special ambiguity surrounds the seventh scale degree. When do we raise and when do we leave it unaltered? The answer is quite simple and direct.



Ex. 9-3--Leading Tone in the Minor

RAISED

Raise whenever it acts as leading tone--that is, whenever it moves to . Therefore, raise in any cadence to the minor tonic (see example 9-3a). Raise at the half cadence as well, for the terminal V will, eventually, resolve to i (see example 9-3b).

DIATONIC

Use the unaltered, or diatonic, version of when *descending* from through to (see example 9-3c, the first two alto notes).

Raised offers no advantage when descending to . In fact, the augmented second that results from a raised - motion is a melodic dissonance.

Augmented Second

Avoid melodic augmented seconds. In the minor, moves naturally to . It is only a half step away. Raised moves naturally to for the same reason.

Remember: Unaltered descends to and raised ascends to .

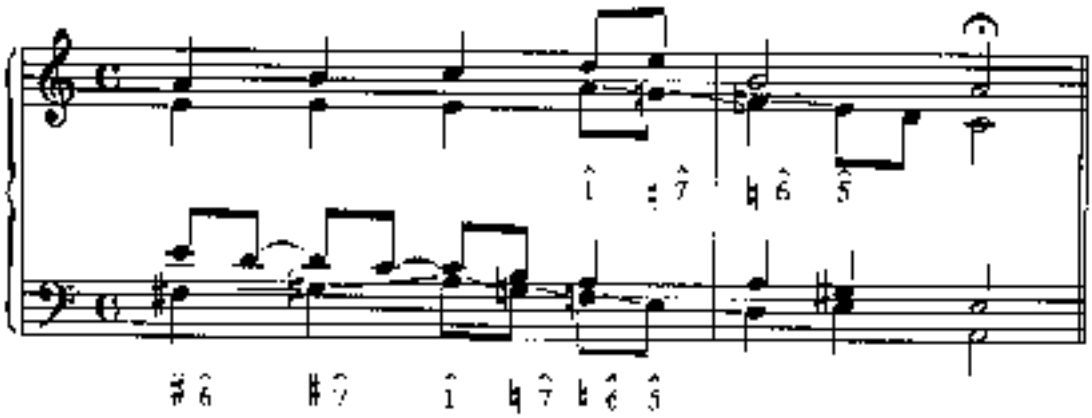
Clearly, the motions -raised and raised - which create the augmented second contradict the natural voice leading tendencies of the scale degrees involved.

The simplest way to avoid the augmented second is to approach and leave the raised seventh scale degree from above. As a rule, raised should either move directly to or should move to another scale degree that does. For example, we frequently see the melodic progression raised - - in the minor.

Raised

Similarly, you should remember that the raised arises from our effort to *avoid* the augmented second (See Chapter 3, the "Melodic Minor"). When passing from to in the minor, we require raised --and

raised to approach raised . *If you must approach raised from below, do so from raised .*



Ex. 9-4--Bach, Chorale 57

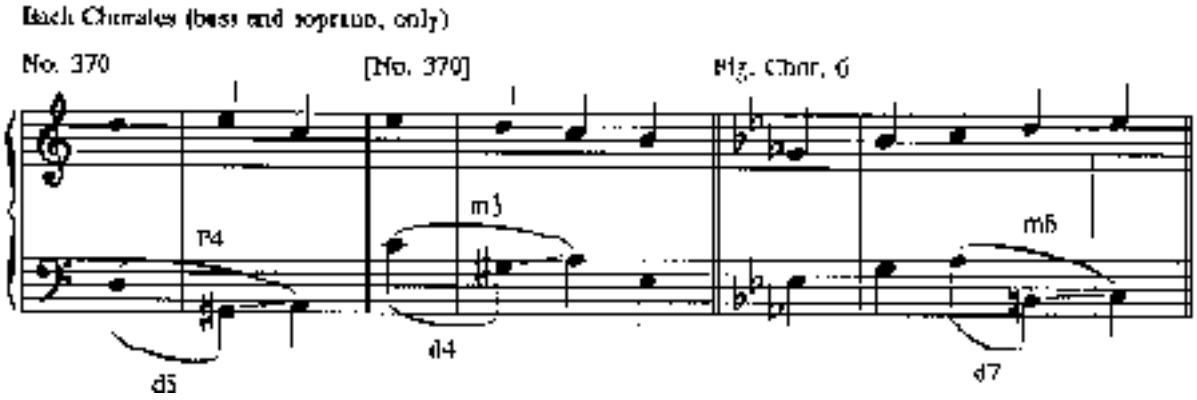
As a voice moves *up* by step toward , Bach raises to create the leading tone and raises to avoid the augmented second. When a voice moves *down* by step from to , Bach leaves both and unaltered. When a voice skips from raised , the augmented second is not a concern (see the final tenor G-sharpof example 9-4).

The Linear Dissonance

The dissonance created by altered notes in the minor can, in special instances, provide dramatic contrast to our free flowing voice leading. Though more common in free style, such exceptional voice leading has its place even in chorale style.

Recall that *all melodic dissonances, like harmonic dissonances, require resolution*. Diminished intervals resolve inwards--that is, in the opposite direction of the skip. Augmented intervals resolve outwards--that is, in the same direction as the skip (see Chapter 3, "Active Intervals").

We see in example 9-5 three dissonant skips to the raised seventh scale degree, each in the bass. Notice the similarities.



Ex. 9-5--Linear Dissonances in the Bass

DESCENDING TO THE LEADING TONE

First, each example *descends to raised* , creating a diminished interval.

RESOLVING THE LEADING TONE

Second, the leading tone of each example *resolves to* . This motion "resolves" each of the dissonant intervals to a consonant interval.

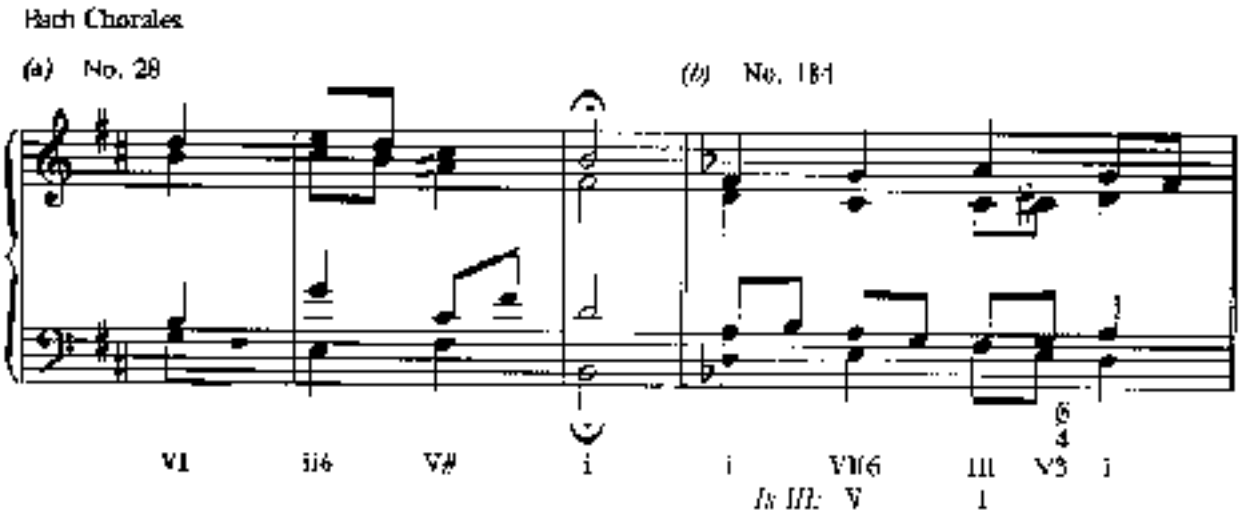
BALANCING CONJUNCT MOTION IN SOPRANO

Third, the dissonant skip in the bass is *balanced by a step in the soprano*, usually in the opposite direction.

As you learned in chapter 5, a skip--especially a dissonant one--should be followed by a step in the opposite direction. Recall that diminished intervals resolve inwards, diminished skips resolve naturally by step in the opposite direction, creating just that preferred voice leading. For this reason, we see diminished melodic intervals more frequently than augmented melodic intervals.

III: THE RELATIVE MAJOR

In the minor, we alter scale degrees to avoid the natural pull of the minor mode toward its relative major. As the relative major of each minor key, III is a potential tonic.



Ex. 9-6--Diminished ii and Tonicized III

Diminished ii

The major has a single naturally occurring diminished triad, vii. It functions as a voice-leading triad (almost always in position) to I or I6. The diminished triad on ii in the minor poses a special problem. It will pull toward III, for the moment making it sound like a tonic. We call this process *tonicization*.

DIMINISHED II

We may use diminished ii in first inversion as a passing chord to V# (see example 9-6a).

ROOT POSITION DIMINISHED II

Avoid any diminished triad in root position, however. Root position emphasizes the (dissonant) diminished fifth above the bass. For this reason, *diminished-ii cannot function adequately as the upper-fifth divider of V*. (Root-position diminished triads arise frequently in the *diatonic sequences* discussed in Chapter 16, however.)

DIMINISHED II-III

Just as vii resolves naturally to I in the major, diminished-ii resolves naturally to III in the minor. This tonicization of III poses a challenge to the minor tonic (see "Tonicized III" below).

The Subtonic Triad

Similarly, the major triad on (unaltered) easily takes on the appearance of an upper-fifth divider of III.

The resulting VII-III progression, however, mimics the V-I progression of the relative major. This, too, creates tonal ambiguity and a momentary tonicization of III, the relative major.

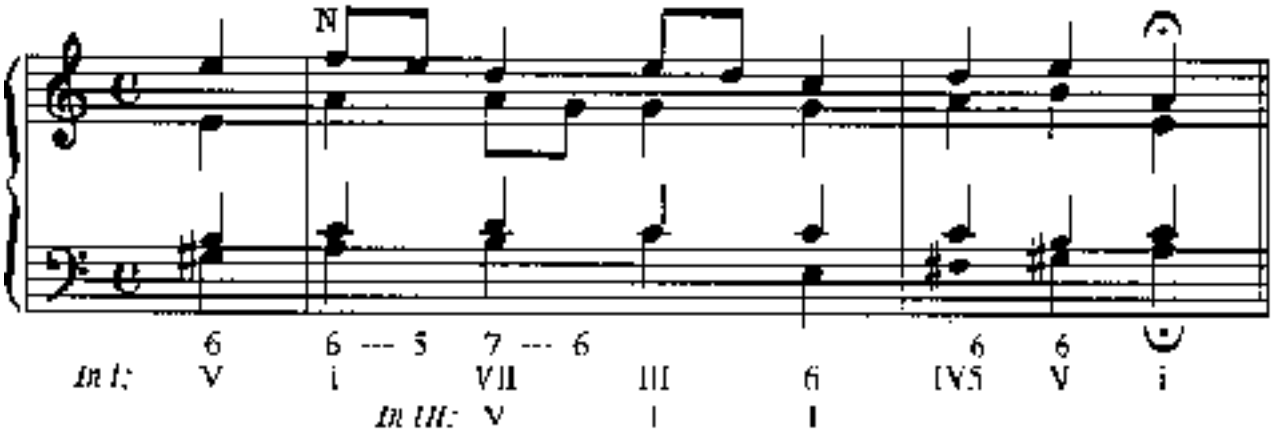
In example 9-6b, Bach supports the bass passing note between and with a VII6. This major triad sounds, for the moment, like V6 in the key of F-major (that is, the key of III). Thus the VII6-III in i (D minor) sounds like V6-I in III, (F major). The C-C-sharp cross-relation of the alto (-#) immediately draws us back into D minor (i), however, creating a V4/3 passing dominant to the true tonic.

When using VII as upper-fifth divider of III, be aware of this implicit tonicization of III.

Tonicized III

For the minor tonic to remain tonic, you should *tonicize III only when the voice-eading function of III in relation to its minor tonic is clear*. For this reason, we find III tonicized most frequently when it functions as the third divider of the progression i-V# or when III substitutes for i6 in a prolongation of i.

In a i-III-V# progression, you can prolong the motion from i to III with a passing VII that tonicizes III. If, then, you move directly from III to V#, you create a cross-relation between the unaltered- of III and the raised of V#. Thus, a ii often passes between III and V#. If, however, you move directly from III to V#, you should keep the cross-relation (-#) in the same voice (see example 9-6b). In free composition (and, on occasion, in chorale style), the tonicization of the third divider can be extensive.



Ex. 9-7--Bach, Chorale 13

Here, Bach tonicizes III with the same i-VII6-III progression. This sounds like V6-I in III (C-major). Bach prolongs this III with a III6. (At the moment, this sounds more like I6 in C major than III6 in A minor.) The voice-leading bass F-sharp that begins the last measure destroys the tonicization. Bach

reestablishes tonic A minor with a contrapuntal cadence to i, approached in the bass by a raised -raised - linear progression.

We will discuss tonicization techniques more thoroughly later.

Summary

In the minor, you must be certain that the raised seventh scale degree functions as neighbor to . When approaching the raised seventh scale degree, avoid the augmented second between raised and .

Remember that both the diminished triad on ii and the major triad on VII can tonicize III. A tonicization of III need not compromise the minor tonality as long as III functions clearly as a voice-leading prolongation of the minor tonic.

For Additional Study

- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapters 4-5.
- Schenker, Heinrich. *Harmony*. Edited by Oswald Jonas. Translated by Elisabeth Mann Borgese. Chicago: University of Chicago Press, 1980. Section I, Chapters 1-3.
- Schoenberg, Arnold. *Structural Functions of Harmony*. Rev. ed. Edited by Leonard Stein. New York: Norton, 1969. Chapters 1-4.
- Schoenberg, Arnold. *Theory of Harmony*. Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Chapter 5.
- Williams, Edgar W. *Harmony and Voice Leading*. New York: HarperCollins, 192, Chapter 8.

.top | bottom | next chapter | previous chapter

Melodic Figuration

Tonal music contains many passing and neighboring motions that remain unsupported. These melodic figures smooth and sometimes even correct voice leading from one chord to the next. We distinguish between two types of melodic figuration: chordal skips and nonharmonic notes. Passing notes and neighboring notes are the two types of nonharmonic notes.

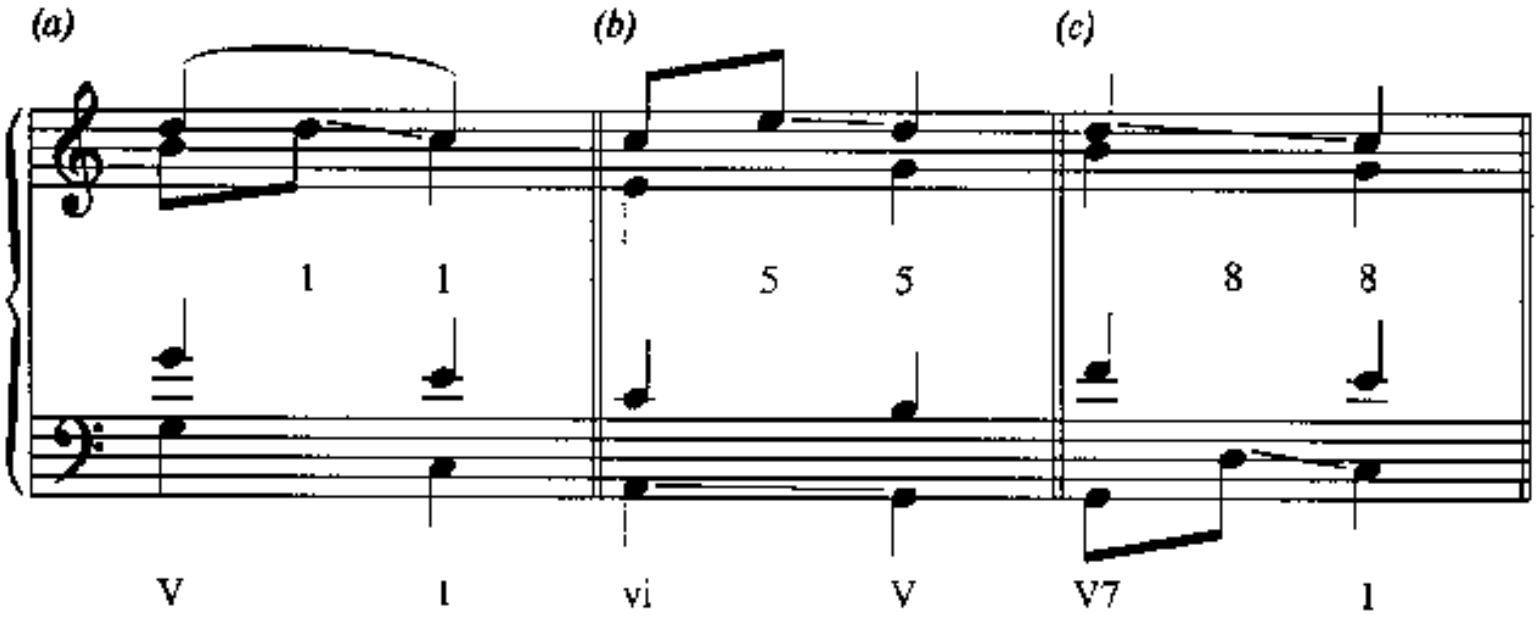
Chromatic figurations often serve to tonicize scale degrees other than the tonic. These tonicizations highlight the primary triads V or IV within a larger unfolding of I.

CHORDAL SKIPS

Often a voice moves from one chord note to another chord note within the same chord. Such a motion is a *chordal skip*.

General Function

When a voice must skip between two harmonies, we may "fill in" that skip with a chordal skip (see example 10-1a). When a voice moves by step between harmonies, a chordal skip intensifies that motion by providing the other neighbor to the final note (see example 10-1b).

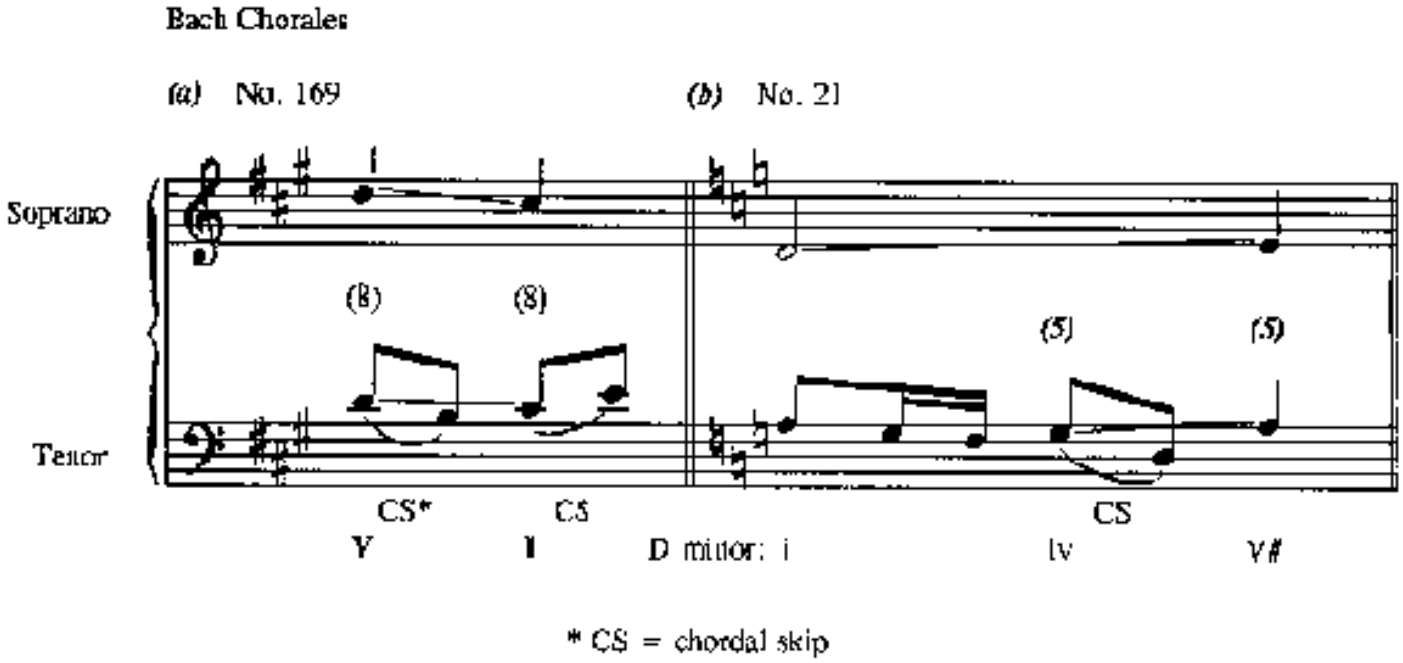


Ex. 10-1--Chordal Skips

Remember: A chordal skip moves to a note in the same chord. Thus, all chordal skips are consonant.

Chordal Skips and Faulty Voice Leading

What smooths out the voice leading in one voice may create problems with another voice. Be careful not to create faulty parallel motions when adding chordal skips. Each of the chordal skips below creates forbidden parallels.



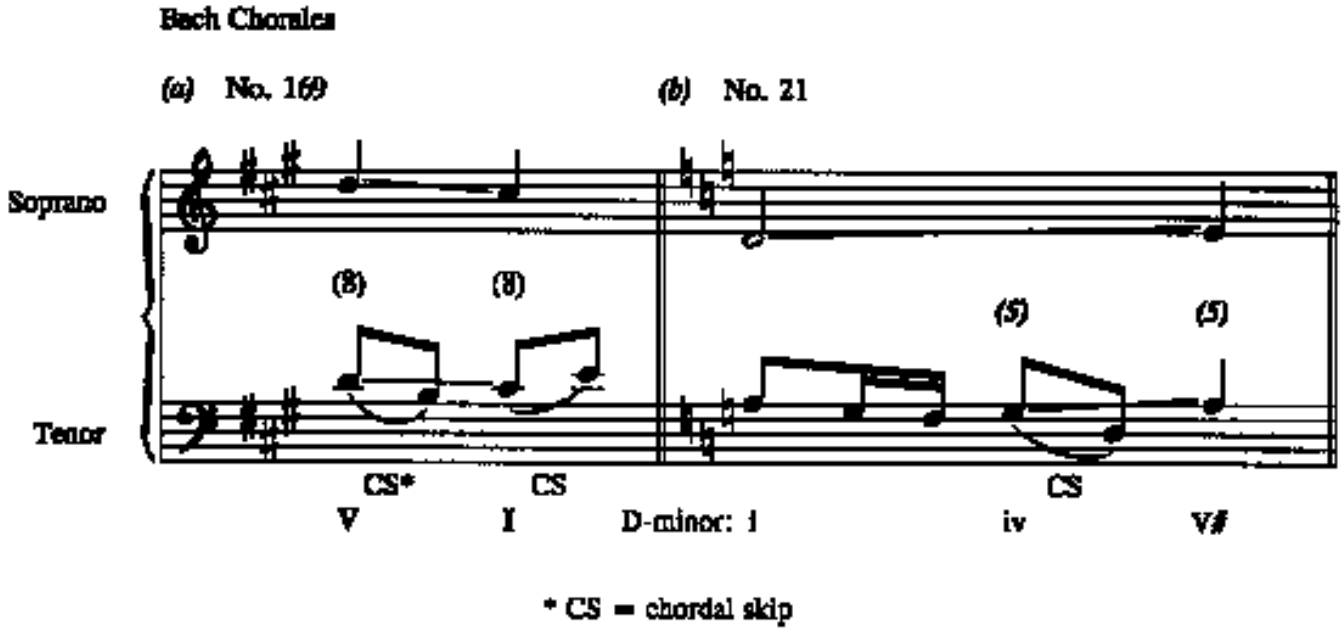
Ex. 10-2--Chordal Skips and Forbidden Parallels

The alto's chordal skip creates parallel perfect unisons with the soprano in example 10-2a. Similarly, a chordal skip in the soprano creates parallel fifths with the bass in example 10-2b. In example 10- 2c, parallel octaves arise with the chordal skip in the bass.

All such parallels are forbidden. The note that results from a chordal skip is itself a chord note. The voice leading between it and the next chord must be sound. It may not contain faulty parallels.

Correction for Faulty Parallels

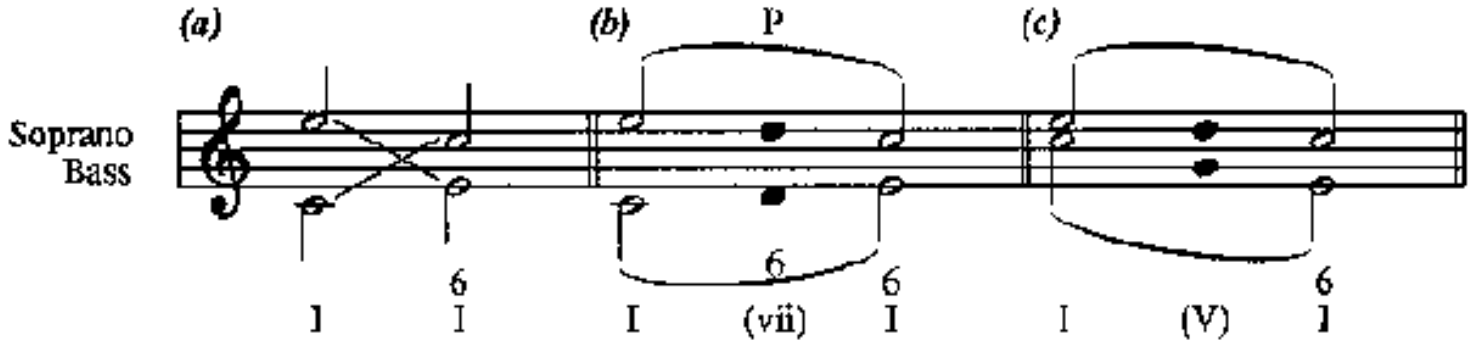
However, chordal skips can also *correct* faulty parallels that arise in basic part writing. In example 10-3a, Bach eliminates parallel octaves between soprano and tenor with a chordal skip. As a result, the tenor moves into the octave C's in contrary motion with the soprano rather than in parallel. Bach corrects the parallel fifths of example 10-3b in much the same way. Here the tenor skips to the fifth of the iv (D) before moving to the root of V (A). In this way it approaches the fifth with the soprano in similar rather than parallel motion.



Ex. 10-3--Chordal Skips Correct Forbidden Parallels

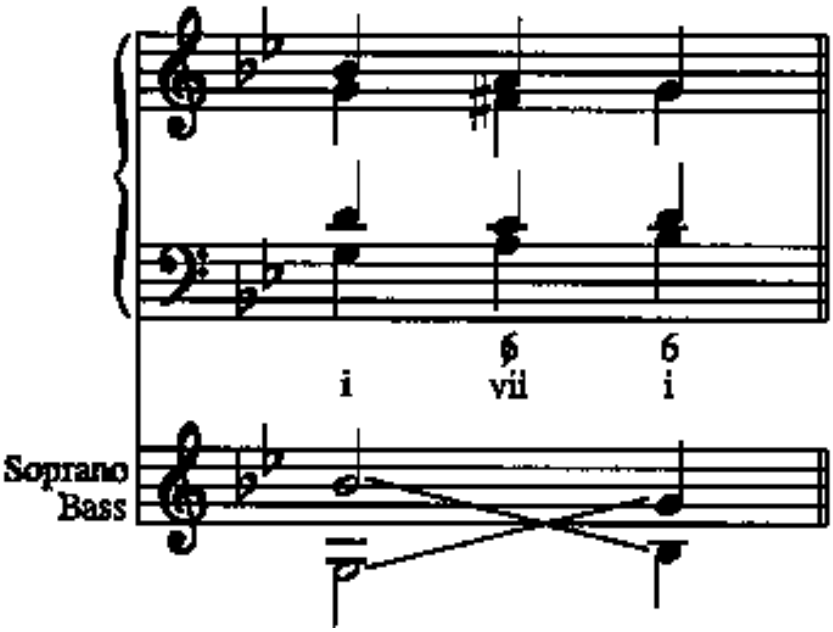
Voice Exchange

A soprano chordal skip combined with a bass arpeggiation may result in a *voice exchange*.



Ex. 10-4--Origin of the Voice Exchange

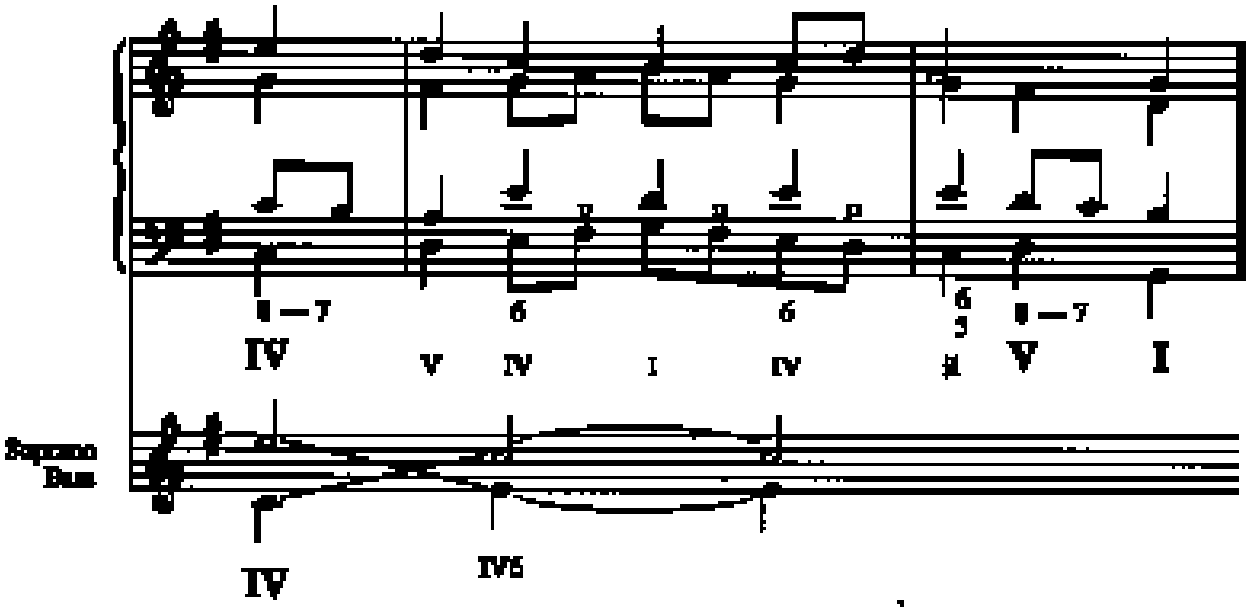
In example 10-4a, the outer voices exchange chord notes. Passing motions fill in the resulting arpeggiations (10-4b). Often a fifth divider serves as a sort of "leaping passing note" in the bass of a voice exchange (10-4c).



Ex. 10-5--Bach, Chorale 261

Using the voice exchange, we can compose out a soprano chordal skip or a bass arpeggiation. In example 10-5, the bass moves from G to B as the soprano moves from B to G. Bach prolongs the voice exchange with a passing A in each voice.

Often a voice exchange provides the framework for an extended progression.



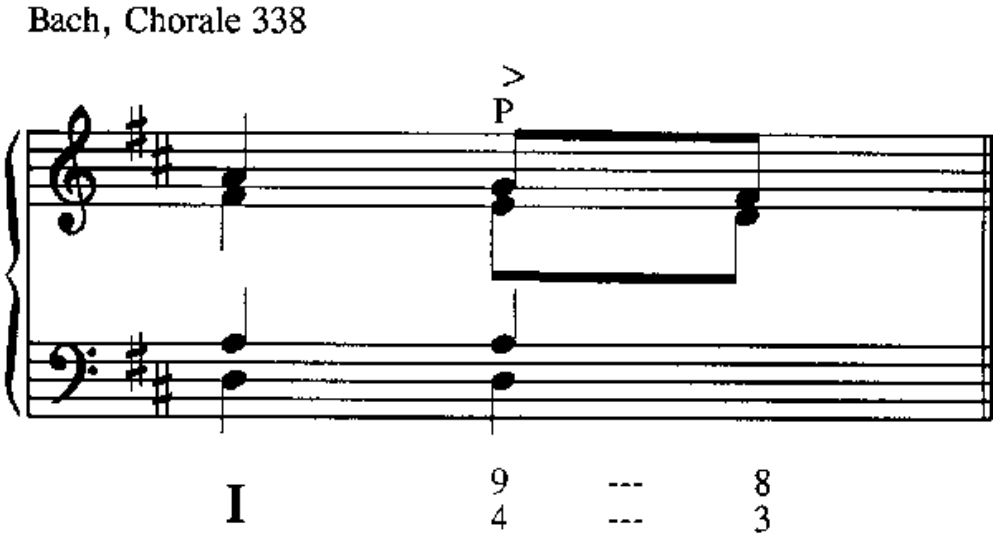
Ex. 10-6--Bach, Chorale 65

Here Bach composes out the progression from the opening IV to the final V with a voice exchange. Notice how the V (measure 1, beat 1) functions as a passing chord within the IV-IV6 voice exchange, functioning as a pure voice-leading chord. Our ear does not confuse it with the true dominant--the upper fifth divider--that arrives in the last measure.

PASSING NOTES

When a voice skips by third (or fourth) from a note of one chord to a note of the next, we may fill in the space between them with passing notes. Passing notes that act as melodic figurations, however, do not receive consonant support from the bass. In this way they differ from the passing notes that we have discussed thus far.

We distinguish between two types of passing notes: unaccented and accented. Unaccented passing notes move between two accented chord notes. (The several passing notes of example 10-6 are all unaccented.) Accented passing notes arise on a metrical accent. In example 10-7, passing notes fill in the third skip in soprano and alto simultaneously. Bach places the passing G and E on the beat, creating a pair of accented passing notes.



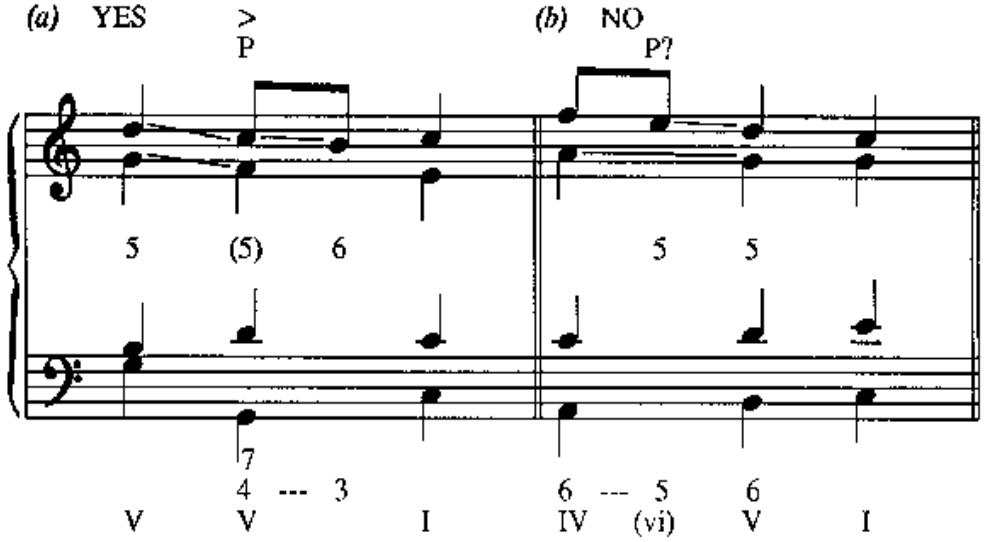
Ex. 10-7--Accented and Unaccented Passing Notes

Passing Notes and Parallel Fifths

Both accented and unaccented passing notes can be either dissonant or consonant. The dissonance of a dissonant passing note clearly confirms its passing character. The consonant passing note, however, can create problems.

PASSING NOTES AS CAUSE OF PARALLEL FIFTHS

Passing notes often create parallel fifths. If the basic part writing is solid and the passing note is dissonant, then these fifths cause no problem. Parallel fifths created by dissonant passing notes result from melodic figuration and not basic part writing (see example 10-8a).

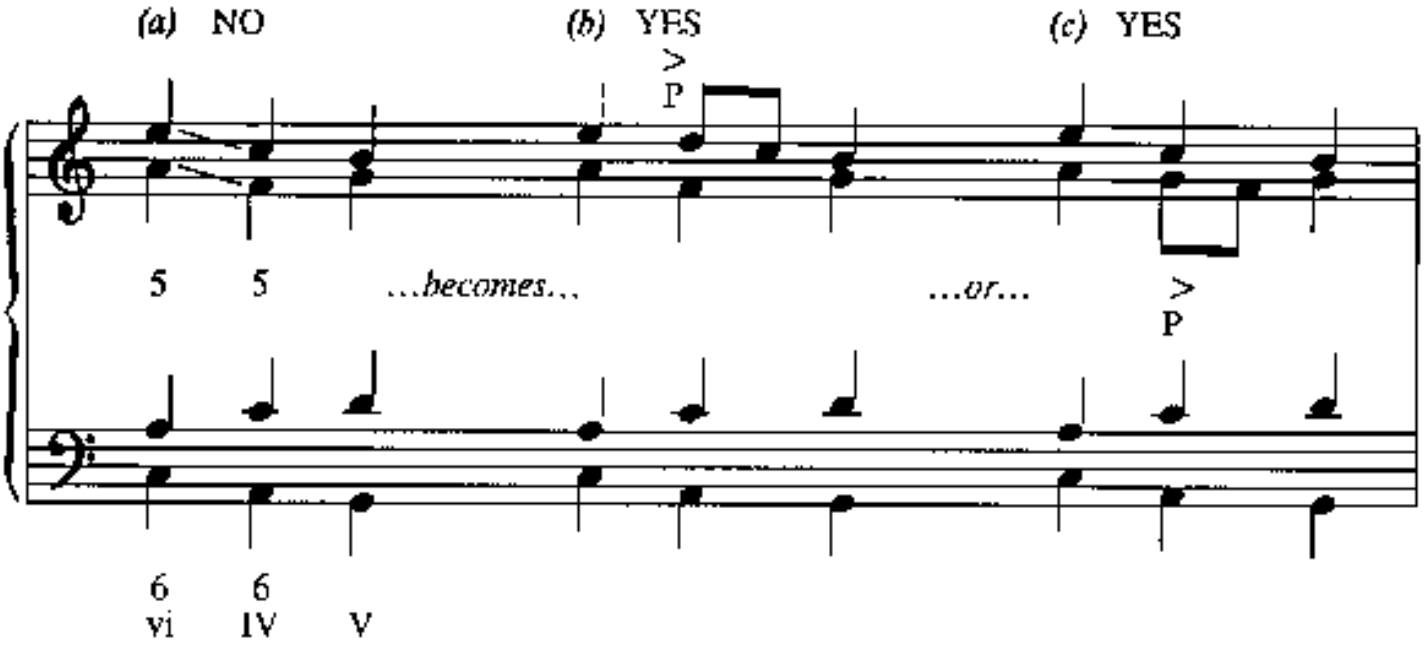


Ex. 10-8--Passing Notes and Faulty Parallel Fifths

However, do not allow the *consonant* passing note to create parallel fifths. In effect, a consonant passing note changes the harmony, sounding like a chord note (of a new chord) rather than a melodic figuration. As a result, the part writing between that consonant passing note and the next chord must be solid. It may *not* create parallel fifths (see example 10-8b).

PASSING NOTES AS CURE FOR PARALLEL FIFTHS

Passing notes can correct parallels fifths in basic part writing. Since we hope to divert the ear from the parallel motion to the similar motion created by the passing note, accented passing notes work best in this role.



Ex. 10-9--Passing Notes orrect Parallel Fifths

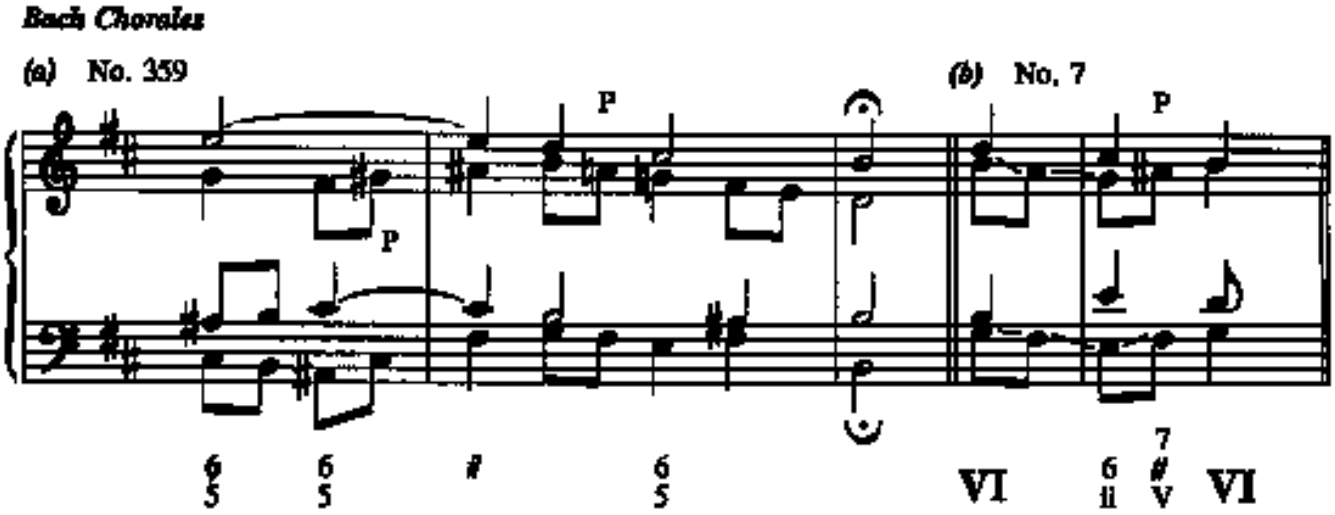
We can correct the parallel fifths of example 10-9a with an accented passing note in either the alto (10-9b) or the soprano (10-9c).

Passing Notes and Other Forbidden Parallels

Passing notes may not create parallel unisons or octaves. Nor may passing notes correct parallel unisons or octaves present in basic part writing.

Passing Notes in the Minor

As discussed in Chapter 9, we should raise the seventh scale degree in the minor when it approaches as a leading tone. If you approach raised from , raise to avoid the augmented second. (See the alto in example 10-10a, measure 1.) When descends from *or does not function as a leading tone*, do not alter it or (see alto in example 10-10b).



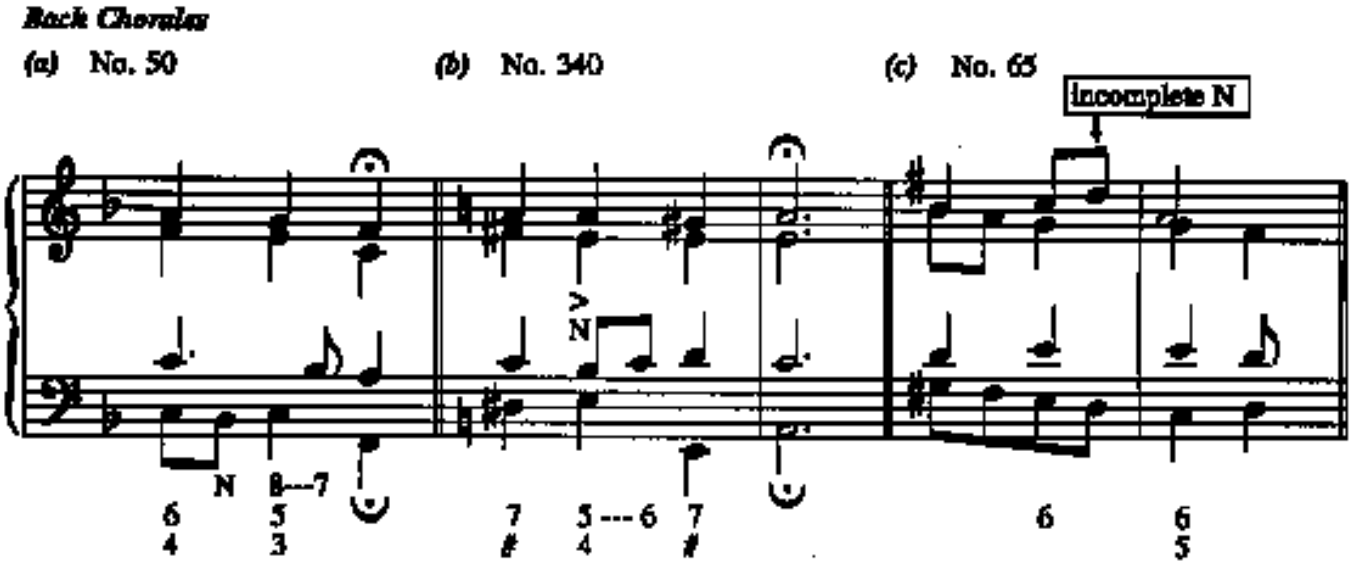
Ex. 10-10--Passing Notes in the Minor

However, when unaltered is the principal chord note, passing from through to causes problems. In example 10-10b, Bach expands VI of B minor with its lower-fifth divider, ii. Diatonic is the root of this prolonged triad. By raising to create a leading tone as diatonic moves to , Bach creates an augmented second. Bach allows this here, presumably because the sequence of parallel passing notes between bass and alto help mask this final linear dissonance.

NEIGHBORING NOTES

Neighboring notes embellish the repetition of a single pitch between successive chords. Neighboring notes may be unaccented (bass, example 10-11a) or accented (tenor, 10-11b). Their motion may be complete (example 10-11a

and 10-11b) or incomplete. In example 10-11c, Bach begins a neighbor note motion above the soprano C. Rather than return the upper neighbor (D) to C and complete the neighbor-note motion, he skips from D to A, leaving the neighbor incomplete.



Ex. 10-11--Neighboring Notes

Neighboring Notes and Parallel Fifths

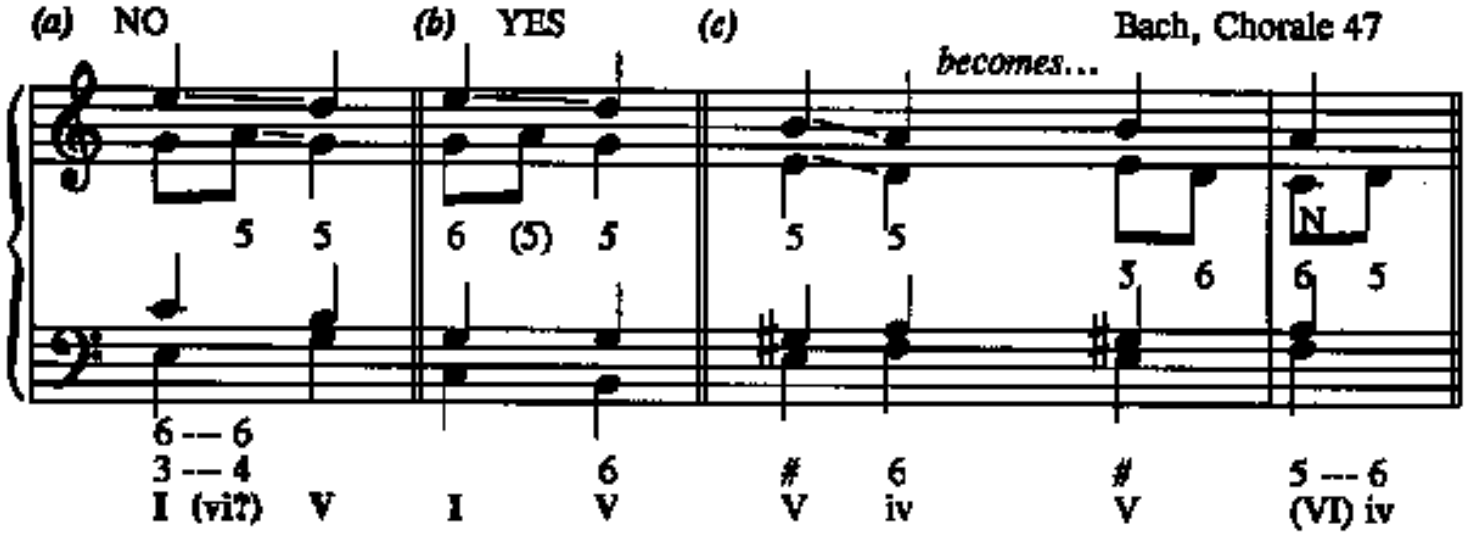
Like passing notes, neighboring notes can be consonant or dissonant. Consonant neighbors create greater problems than dissonant neighbors.

NEIGHBORING NOTES AS CURE OF PARALLEL FIFTHS

Avoid parallel fifths that result from consonant neighbors for the same reasons that you avoid parallel fifths resultin from consonant passing notes. A consonant neighbor note, in effect, changes the harmony. Any parallels that result, therefore, are between chord notes. In example 10-12a, a consonant alto neighbor note creates parallel fifths with the soprano. Since we may hear a consonant neighbor as a chord note, these parallel fifths are incorrect. Parallel fifths that result from *dissonant* neighbor notes, however, create no problems. In example 10-12b, the alto neighbor note is dissonant (with the tenor G). As a result, we will not hear these notes as parallel fifths.

NEIGHBORING NOTES AS CURE FOR PARALLEL FIFTHS

A neighbor note can break up parallel fifths in the basic part writing. Like accented passing notes, the accented neighbor functions better in this role. Bach breaks up the parallel fifths of example 10- 12c with an accented neighbor note. The parallel fifths have become parallel sixths.



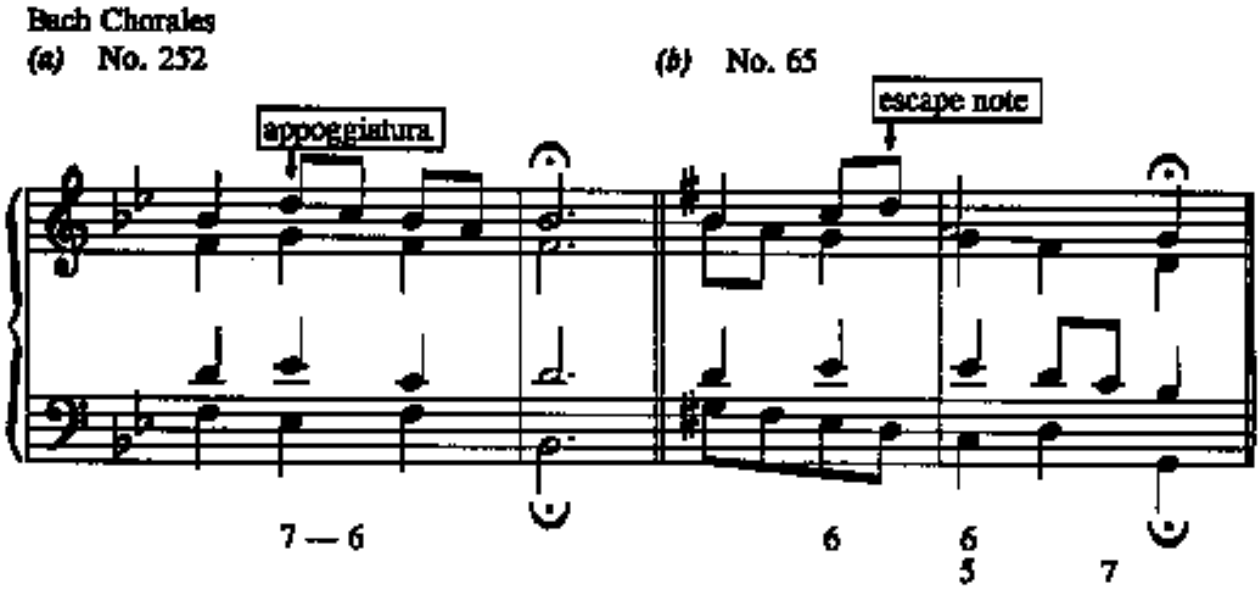
Ex. 10-12--Neighboring Notes and Parallel Fifths

Parallel Octaves and Unisons

Like passing notes, neighboring notes can not create parallel unisons or octaves. Nor can neighboring notes correct parallel unisons or octaves present in basic part writing.

OTHER TYPES OF MELODIC FIGURATION

Traditionally, theorists have further distinguished two special types of incomplete neighbors.



Ex. 10-13--Special Types of Melodic Figuration

The Appoggiatura

When we have a voice skip to an accented incomplete neighbor, we create an *appoggiatura*. More often than not, this accented incomplete neighbor is dissonant as well. In example 10-13a, the soprano embellishes its B-C motion by skipping to the dissonant upper neighbor of C before arriving on C. This incomplete neighbor is an appoggiatura because (1) it is accented, (2) the voice skips into it, and (3) it resolves by step.

The Escape Note

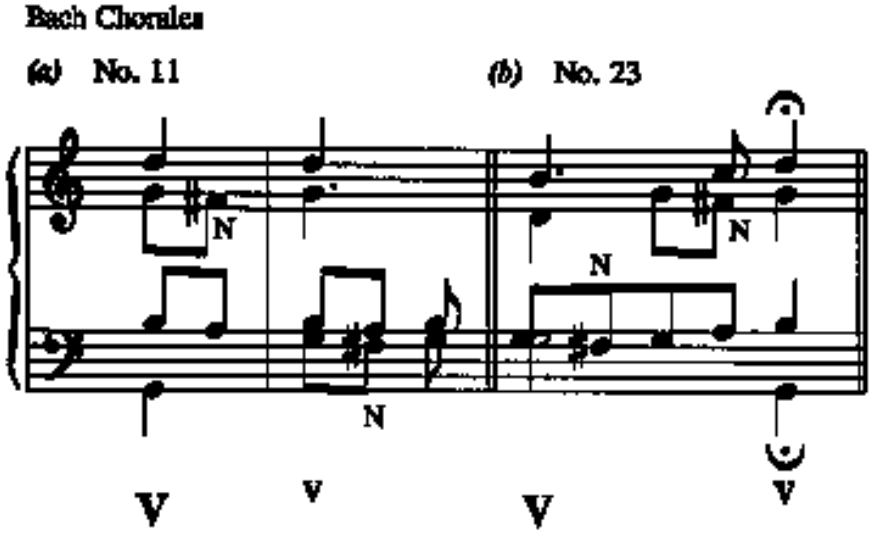
When we have a voice skip *from* an unaccented incomplete neighbor, we create an *escape note*. In example 10-13b, Bach embellishes a soprano C-A motion with an incomplete neighbor above C. Instead of returning to C, the neighbor (D) skips to A. This incomplete neighbor is an ecape note because (1) it is unaccented, (2) we approach it by step, and (3) we skip from it.

CHROMATIC FIGURATION

Often altered scale degrees serve as passing or neighboring notes. We call this procedure *chromatic figuration*.

Chromatic Lower Neighbor

The chromatic lower neighbor is the most common chromatic figuration. A half step provides the strongest neighboring motion. The chromatic lower neighbor provides this half step neighbor where one does not exist naturally.



Ex. 10-14--Chromatic Lower Neighbor Notes

In example 10-14a, both alto and bass in turn embellish a repeated G with a chromatic lower neighbor, F-sharp. We see the same in example 10-14b, this time in alto and tenor.

Melodic Tonicization

So effective is the chromatic lower neighbor in strengthening the scale degree it embellishes that this scale degree may become *tonicized*.

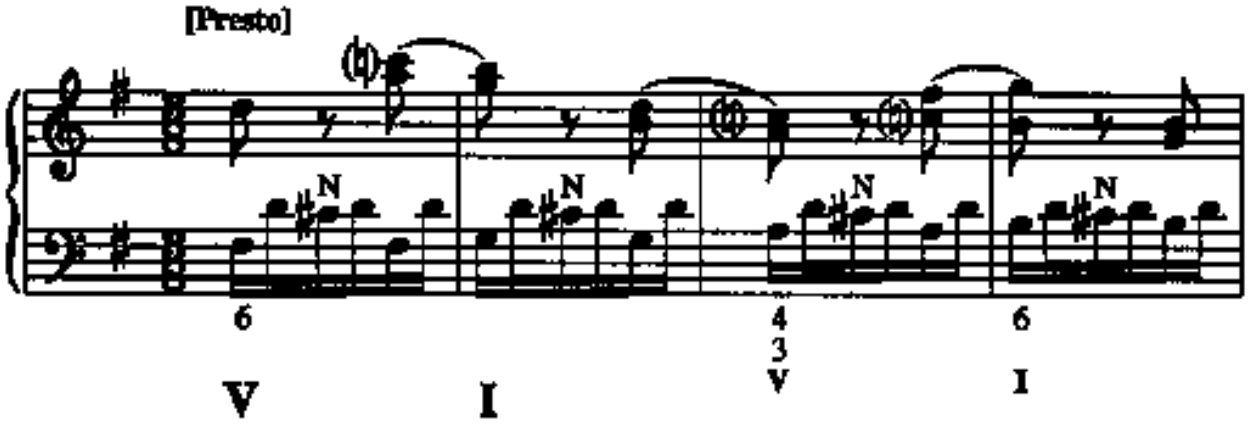
TONICIZATION

A tonal composition has one tonic. However, we may occasionally emphasize a certain scale degree by treating it, momentarily, like a tonic. The technique that creates this fleeting "tonic" is known as *tonicization*. Two types of tonicization occur: harmonic tonicization and melodic (or linear) tonicization. (See "Tonicized III" in Chapter 9. In Chapter 13 we will discuss harmonic tonicization in more detail.)

When we tonicize a scale degree, we do not "change the key." Rather, we temporarily emphasize one scale degree at the expense of the tonic. Any scale degree can be tonicized. However, tonicizations of V (and IV) are by far the most common. Why? Because tonicization serves a greater end. It provides a technique for reinforcing the primary scale degrees in the prolongation of the tonic triad.

MELODIC TONICIZATION OF V

We frequently see [ ] embellished by a chromatic lower neighbor (see examples 10-14a and 10-14b). This chromatic neighbor provides a linear tonicization of V by providing it (momentarily) with a leading tone. In free style such linear tonicizations may be extensive.

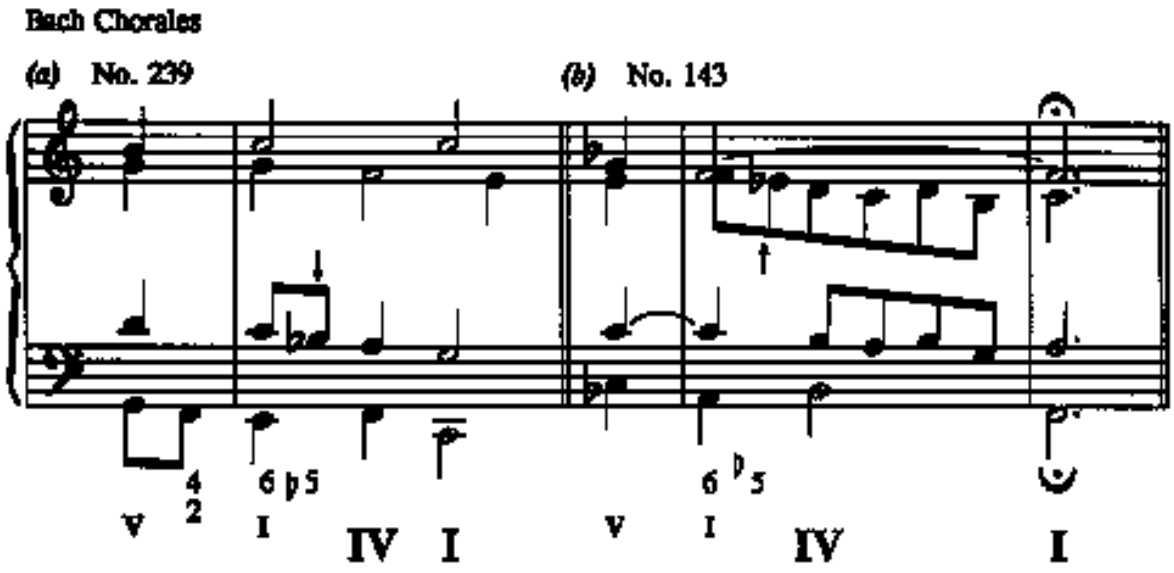


Ex. 10-15--Mozart, Piano Sonata, K. 283, third movement

In example 10-15, Mozart repeatedly embellishes [ ] (D) with its chromatic lower neighbor (C-sharp). This raised-[ ] not only provides [ ] with a leading tone, but forms a tritone with the real tonic (G). This new tritone denies (for the moment) G's tonic function by tonicizing [ ] (D).

LINEAR TONICIZATION OF IV

When I serves as the upper-fifth divider of IV, we frequently see a passing note that lowers the seventh scale degree.



Ex. 10-16--Linear Tonicization of IV

In both examples, Bach flats the [ ] (marked with an arrow) that passes between [ ] and [ ]. By destroying the leading tone and creating a new tritone (between [ ] and lowered [ ]), these altered [ ]s create momentary tonicizations of IV. Like all tonicizations, this tonicized IV serves to prolong the composing out of IV. It does so by--for the moment--providing IV with the quality of a tonic. (For an example of the linear tonicization of IV in free style, see the top staff of example 6.9. The brief, melodic E-flat serves to impart a fleeting "tonic" character to the lower-fifth divider of measure 3.)

Summary

We distinguish between two kinds of melodic figuration: chordal skips and nonharmonic notes. Chordal skips move from one chord note to another of the same chord. Nonharmonic notes embellish the motion from a chord note of one chord to a chord note of the next. We distinguish between two basic types of nonharmonic notes: the passing note and the neighbor note.

Chordal skips break up large skips. When introduced, they must not create forbidden parallel motions. However, they can break up faulty parallels present in basic part writing.

Passing and neighboring notes can be complete or incomplete. They can be accented or unaccented, consonant or dissonant. Parallel fifths that result from dissonant passing and neighboring notes (and not from basic part writing) are permitted, but those that result from consonant passing notes are not permitted. Passing and neighboring notes can break up parallel fifths preent in basic part writing. However, they are not strong enough to break up parallel unisons or octaves present in basic part writing.

When we have a voice skip to an accented incomplete neighbor, we create an appoggiatura. When we have a voice skip from *an unaccented incomplete neighbor, we create an escape note.*

Chromatic figurations can tonicize certain scale degrees, creating a melodic tonicization. A chromatic lower neighbor frequently tonicizes . Lowered frequently tonicizes IV.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapter 20.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 8.
- Williams, Edgar W. *Harmony and Voice Leading.* New York: HarperCollins, 1992. Chapter 10.

top | bottom | next chapter | previous chapter

Diatonic Seventh Chords

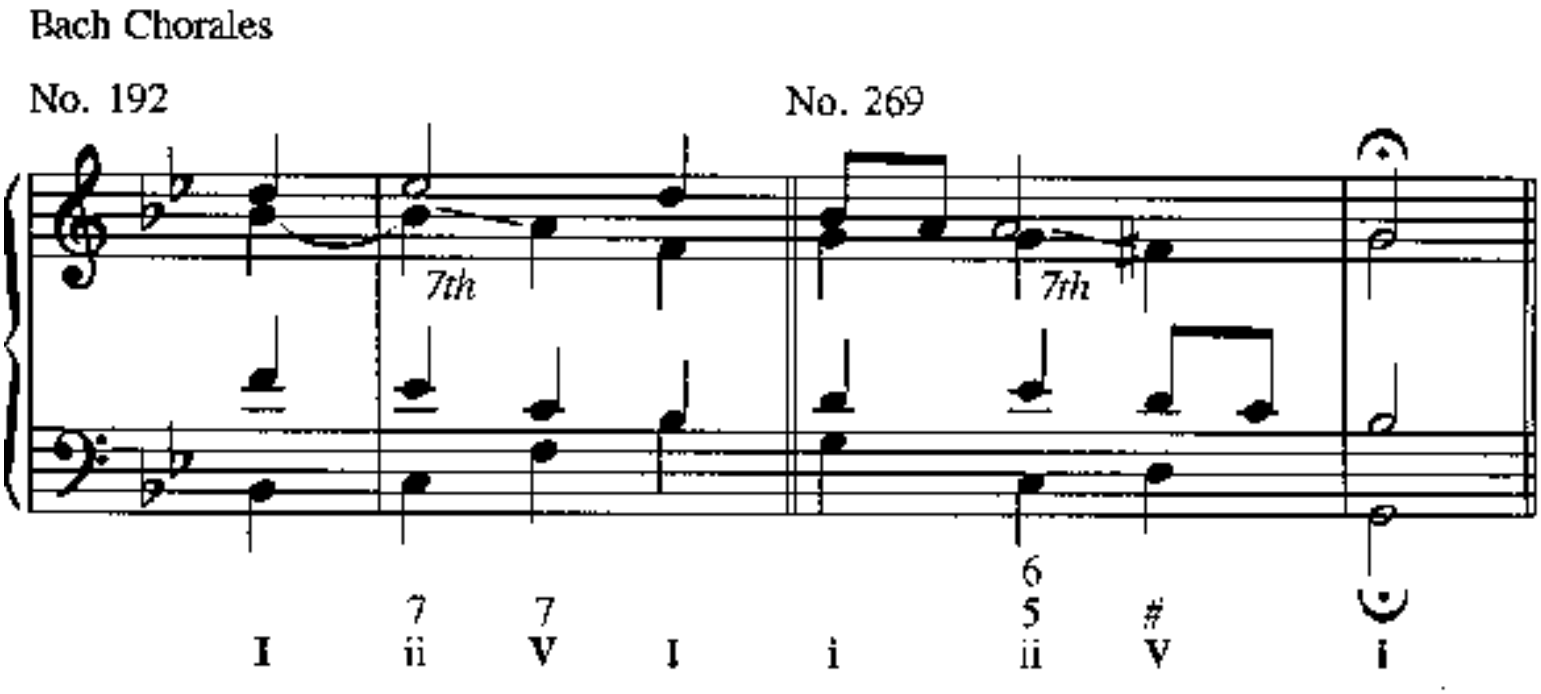
Diatonic seventh chords arise on all scale degrees. Remember that seventh chords arise from voice leading. The dissonant seventh must resolve down by step. Similarly, the remaining chord notes of the seventh should make clear voice-leading sense.

SUPERTONIC AND SUBDOMINANT SEVENTH CHORD

Seventh chords on the supertonic and subdominant lead naturally to V or vii.

Supertonic Seventh

The supertonic seventh functions as upper-fifth divider to V. The seventh (1^) of the ii7 resolves naturally down to the leading tone (7^).

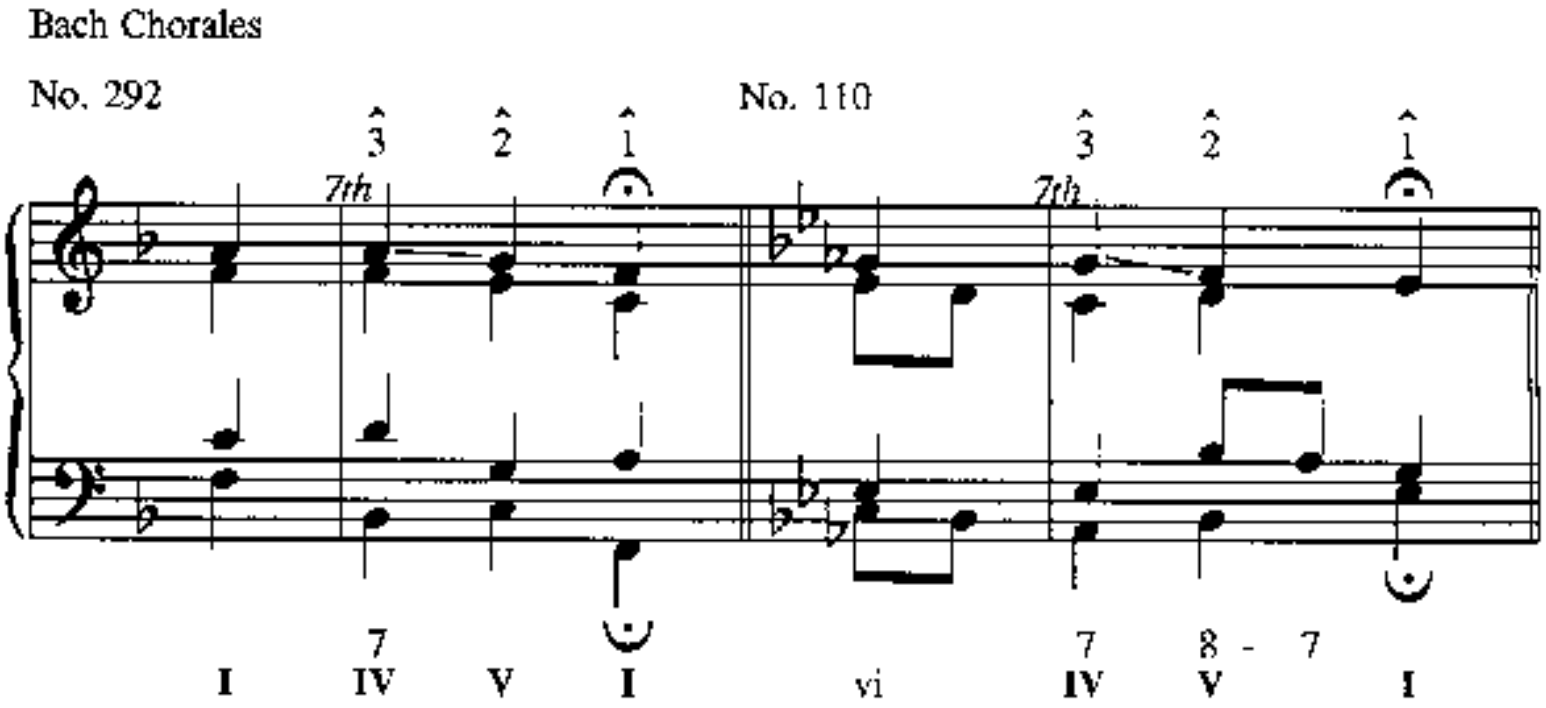


Ex. 12-1 Supertonic Seventh Chords

In both excerpts of example 12-1, the seventh of the supertonic seventh is in the alto. In each case it resolves down by step to the third of V.

Subdominant Seventh

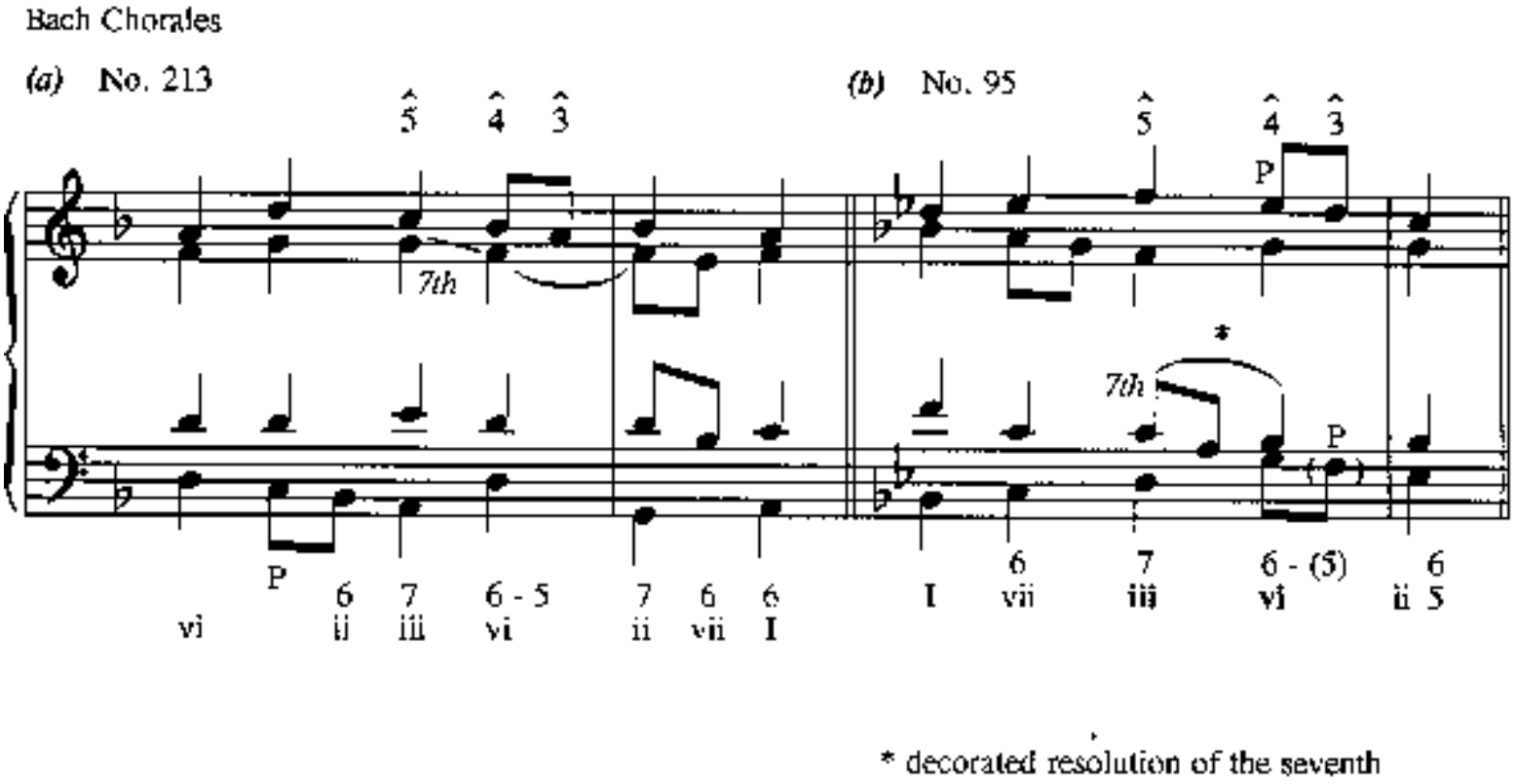
The subdominant seventh functions the same in major and minor. It supports a soprano 3^-2^-1^ cadential motion as part of a IV7-V7-I progression. The subdominant seventh (3^, in the soprano) resolves to 2^. The other chord notes move by step to those of V (see example 12-2).



Ex. 12-2 Subdominant Seventh Chords

THE MEDIANT SEVENTH CHORDS

The mediant seventh chord serves as the upper fifth divider of vi (or vi7). More often than not, iii7 supports 5^ in a soprano 5^-4^-3^ motion. Usually, the passing 4^ provides an accented passing note above the vi, creating a 6-5 motion above 6^ in the bass.



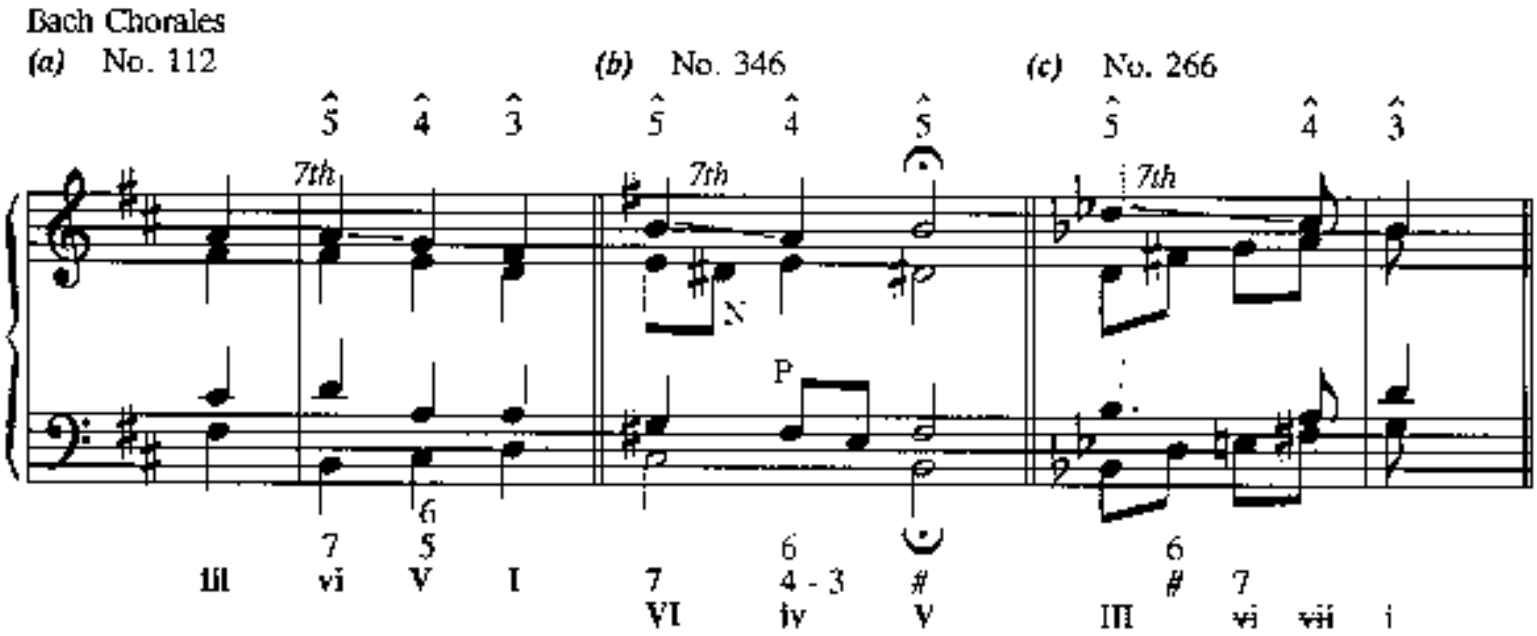
Ex. 12-3 Mediant Seventh Chords

In example 12-3a, the alto holds the seventh (G) of the supertonic seventh. It resolves down by step to 1^, the third of vi. We might read the vi6-5 that follows iii7 as IV6-vi since the passing soprano 4^ (B-flat) is consonant. The bass moves clearly by descending fifths, however, so we will tend to hear this harmony as vi rather than IV6.

In example 12-3b, the seventh (C) of iii7 is in the tenor. It, too, resolves down by step to 1^ (B-flat), but not before leaping to the lower neighbor of 1^. This is a decorated resolution of the seventh (see "The Decorated Resolution," below).

THE SUBMEDIANT SEVENTH CHORD

The submediant seventh chord functions as a voice leading harmony to V, V7 or vii. It often substitutes for or becomes a IV6. We find the seventh (5^) most often in the soprano as part of a soprano 5^-4^-3^ or 5^-4^-5^ motion (see example 12-4a).



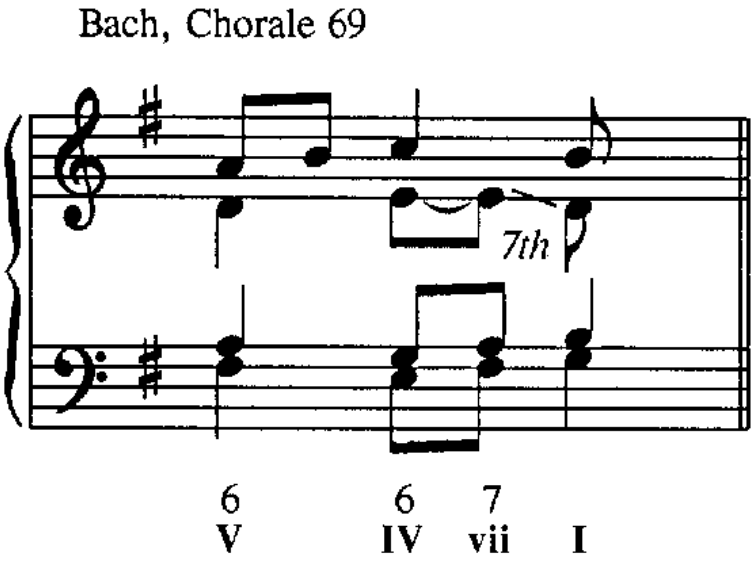
Ex. 12-4 Submediant Seventh Chords

In the minor, diatonic VI7 supports the same 5^-4^ soprano motion that it does in the major. However, in the minor, VI7 is more closely associated with iv6 than ii. In example 12-4b, VI7 serves to prolong iv6 above a common-note bass.

In the minor, we find yet another version of VI7. If we build a triad above raised 6^ we create a diminished triad. A seventh added to this triad increases its dissonant, voice-leading character. When we hear this seventh chord built on raised 6^, its voice-leading character is unmistakable. Note that it still supports a 5^-4^-3^ motion in the soprano, as in example 12-4c. (The hash marks through vi and vii in example 12-4c indicate that these triads are built upon altered scale degrees.)

THE LEADING-TONE SEVENTH CHORDS

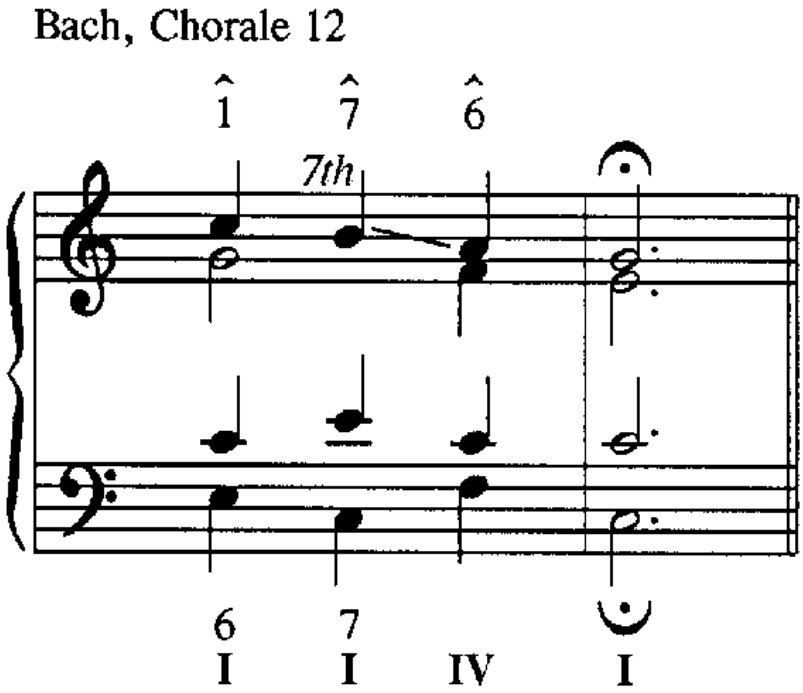
The leading-tone seventh chord functions like the leading-tone triad. Whereas vii functions most often as a 6/3 (serving as a voice leading substitute for V4/3), vii7 often function in root position as a voice leading substitute for V6/5. As a rule, the seventh (6^) of the vii7 resolves to 5^ (see example 12-5).



Ex. 12-5 Leading-Tone Seventh Chord

THE TONIC SEVENTH CHORD

Usually, the tonic seventh arises within a lower-fifth divider prolongation of I. If the soprano moves from 1^ to 6^ as I moves to IV, we may support the passing 7^ that connects 1^ and 6^ with a I7 (see example 12-6).



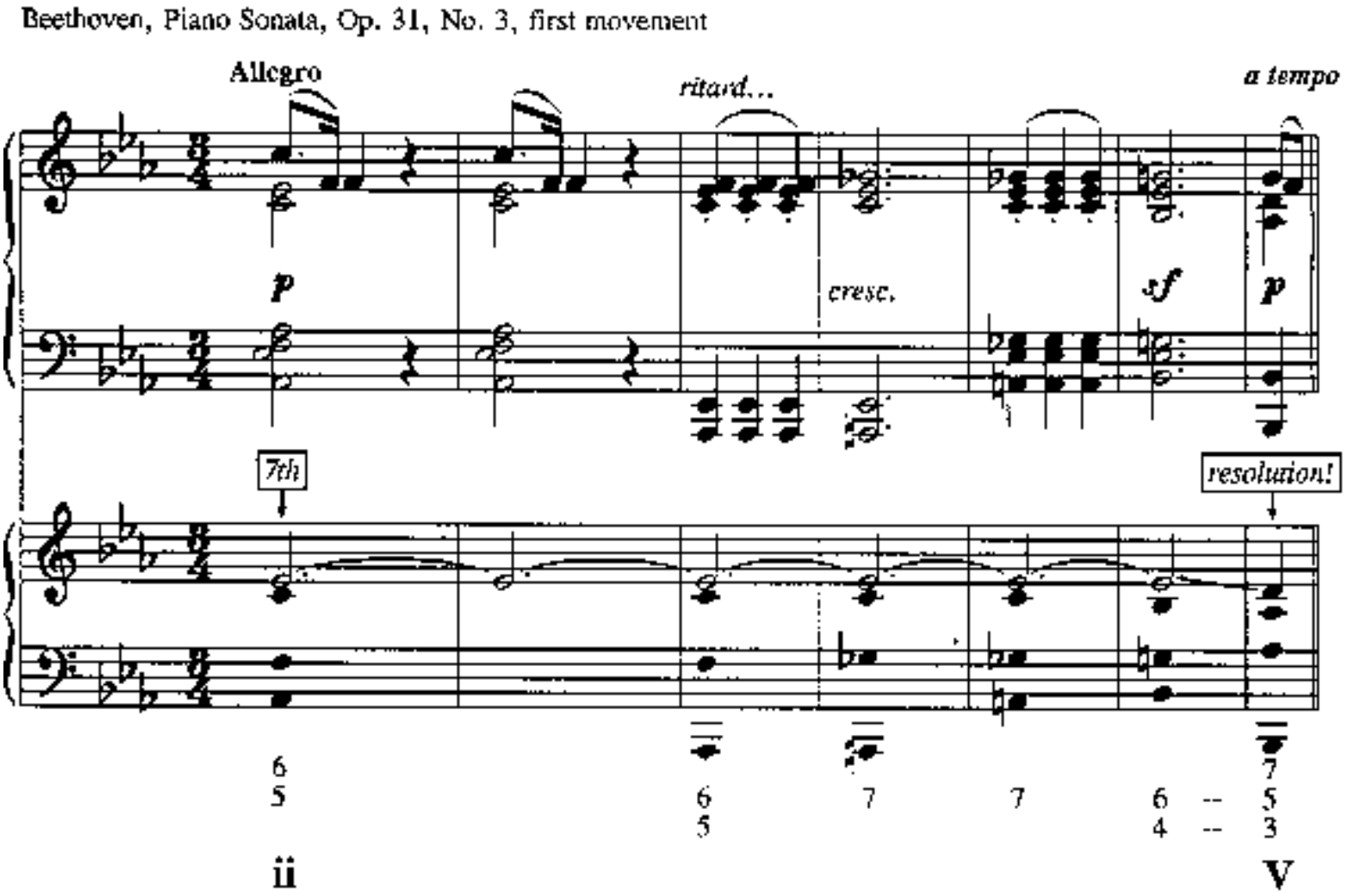
Ex. 12-6 Tonic Seventh Chord

RESOLUTION OF THE SEVENTH: VARIANTS

As a rule, *the seventh must resolve down by step in the next chord*. However, in free style we see three common variants of this resolution.

Transferred Resolution

The seventh can resolve in another voice *if the resolution is by step and to the expected pitch*. Such a resolution is called a *transferred resolution*.



Ex. 12-7 Transferred Resolutions of the Seventh

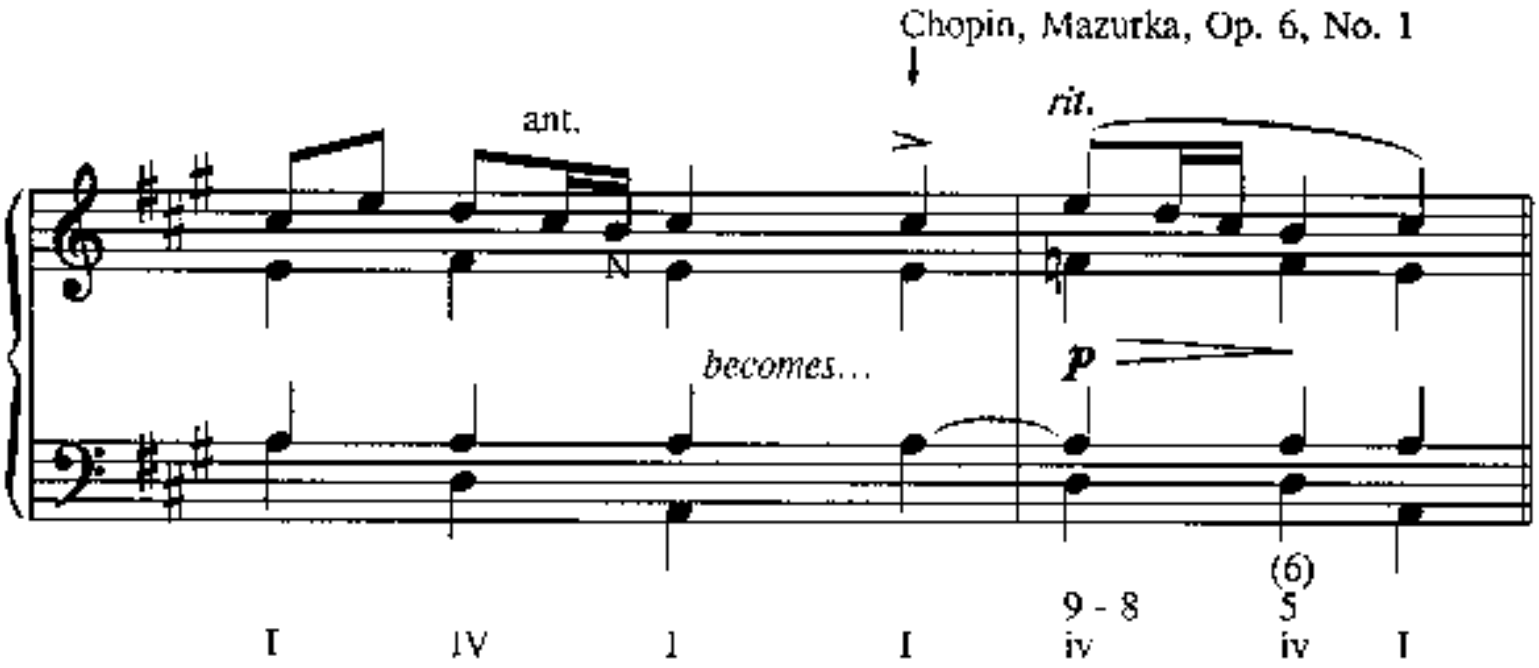
In example 12-7, the sevenths arise in the top voice of the bass staff but resolve in the middle voice. Notice that the transferred resolutions are by step to the expected pitch - they are simply not in the same voice. Though they are rare in chorale style, we see transferred resolutions often in free style.

The Decorated Resolution

We often see the resolution of the seventh embellished with one or more incomplete neighbors. Such a *decorated resolution* resembles the decorated resolution of the suspension (see example 12- 3).

The Delayed Resolution

We may delay the resolution of the seventh by maintaining the unresolved seventh as a common note between chords. Eventually, however, the dissonant seventh will resolve. Example 12-8 is a classic (and extreme) example of the delayed resolution.

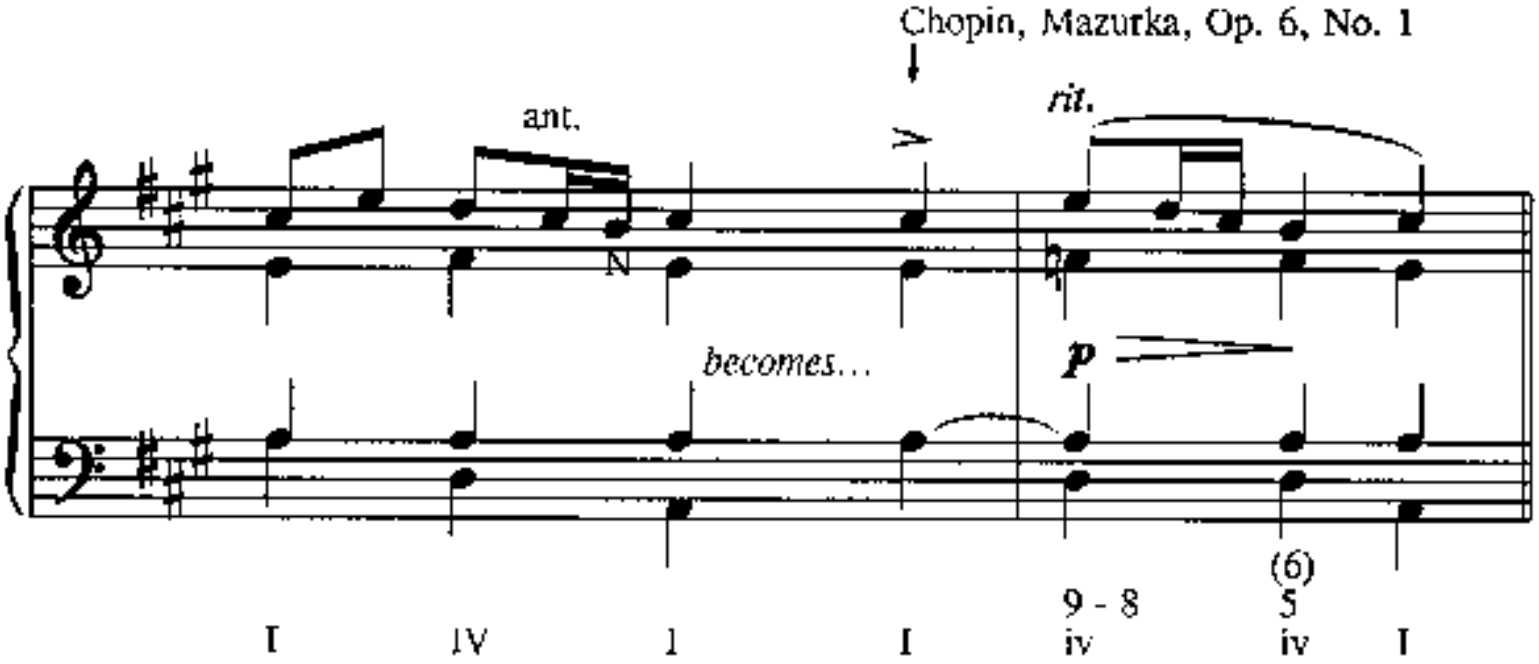


Ex. 12-8 The Delayed Resolution

Note that the seventh, though unresolved until measure 7, remains dissonant. Although the nature of the dissonance changes, the demand for resolution remains.

APPARENT SEVENTH CHORDS

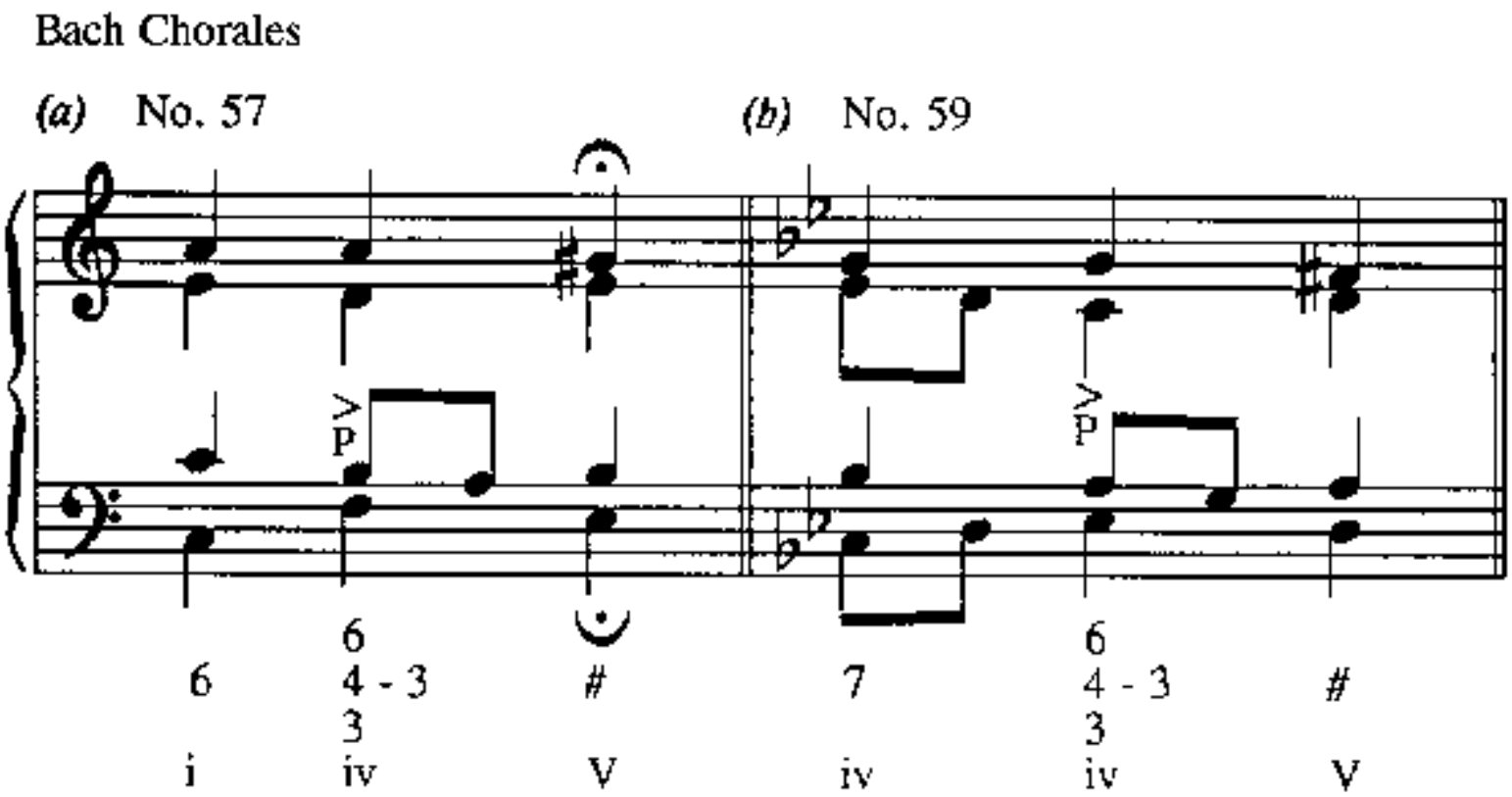
In free style, notes of figuration in an upper voice often create what appear to be seventh chords. However, these *apparent sevenths* neither act nor sound like true seventh chords. Apparent sevenths arise often as the result of pedal points, dissonant passing and neighboring notes or bass suspensions. The apparent 6/5 is the most common (see example 12-9).



Ex. 12-9 Apparent Seventh Chords

By placing simple melodic figurations in accented positions, Chopin creates an apparent-6/5 above 4^ in the bass. The open fifth above 4^ (D), however, creates the effect of a IV in root position - not as a seventh chord in first inversion. (If the 6/5 above IV were, in fact, a seventh chord, the tenor A would have to be the seventh. But the A sounds, in fact, stable and consonant.)

In the chorales, Bach shows a particular fondness for an embellished 6/3 that the student may easily confuse with a 4/3.



Ex. 12-10 The Apparent 4/3

In example 12-10a, an accented passing note (tenor, B) creates a momentary 4/3. If this indeed were a ii4/3, A would be the seventh. Notice, however, that the B sounds dissonant, not the A. In fact, the B seems to resolve to the A. As a result, the chord does not sound like a 4/3 on ii, but a 6/3 on iv. In example 12-10b, the same 1^-raised 7^ soprano receives similar treatment. Once again, the apparent 4/3 resolves itself into a iv6/3.

SUMMARY

The supertonic and subdominant seventh chords both move to the dominant. The seventh of the ii7 resolves to the leading tone. The seventh of the IV7 resolves to the supertonic.

The mediant and submediant seventh chord support 5^ in a soprano 5^-4^-3^ motion. The mediant seventh serves as upper-fifth divider to vi. The submediant seventh serves as upper-fifth divider to ii.

The leading tone seventh chord intensifies the voice leading of vii as it moves to I.

The tonic seventh chord arises as a passing motion to IV within a lower-fifth divider prolongation of I. It supports 7^ in a soprano 1^-7^-6^ motion from I to IV.

When we resolve the seventh in another voice, we have transferred the resolution. When we keep the

seventh as a dissonant common note between chords before resolving it, we have delayed the resolution. We can treat the resolution of the seventh as a suspension (with a dissonant preparation).

Pedal points, dissonant passing or neighboring notes, and bass suspensions sometimes create figures that look like sevenths. These chords, called apparent sevenths, do not behave or sound like true sevenths. The most common apparent sevenths are the "6/5" (which, in sound, is a decorated 5/3) and the "4/3" (which, in sound, is a decorated 6/3).

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapters 23-24.
- Benjamin, Thomas, Michael Horvit, and Robert Nelson. *Techniques and Materials of Tonal Music*. Belmont, CA: Wadsworth, 1992. Part II, Sections 17-19.
- Kostka, Stefan, and Dorothy Payne. *Tonal Harmony*. 2d ed. New York: Alfred A. Knopf, 1989. Chapters 12-14.
- Ottman, Robert W. *Elementary Harmony*. 4th ed. Englewood Cliffs, NJ: Prentice-Hall, Inc. 1989. Chapter 17.
- Schenker, Heinrich. *Harmony*. Edited by Oswald Jonas. Translated by Elisabeth Mann Borgese. Chicago: University of Chicago Press, 1980. Section IV, Chapter 1.

top | bottom | next chapter | previous chapter

top | bottom | next chapter | previous chapter

Harmonic Tonicization and Modulation

We can highlight a scale degree triad by treating it, for the moment, like a tonic. We do so with techniques called **melodic tonicization** and **harmonic tonicization** (discussed below). Tonicizing a scale degree creates a brief, temporary "tonic." We call a longer-lasting tonicization modulation.

Tonicization and modulation are the extremes of a continuum. If a new key area seems temporary or fleeting, we consider it a tonicization. If the new key area seems of greater significance, we consider it a modulation. It is important to remember, however, that neither tonicization nor modulation "changes the key" of a composition. Rather, each represents just another technique of composing out the true tonic triad.

HARMONIC TONICIZATION

We can tonicize any consonant triad. To make a consonant triad other than the tonic *sound* like the tonic, we must approach it as if it *were* the tonic.

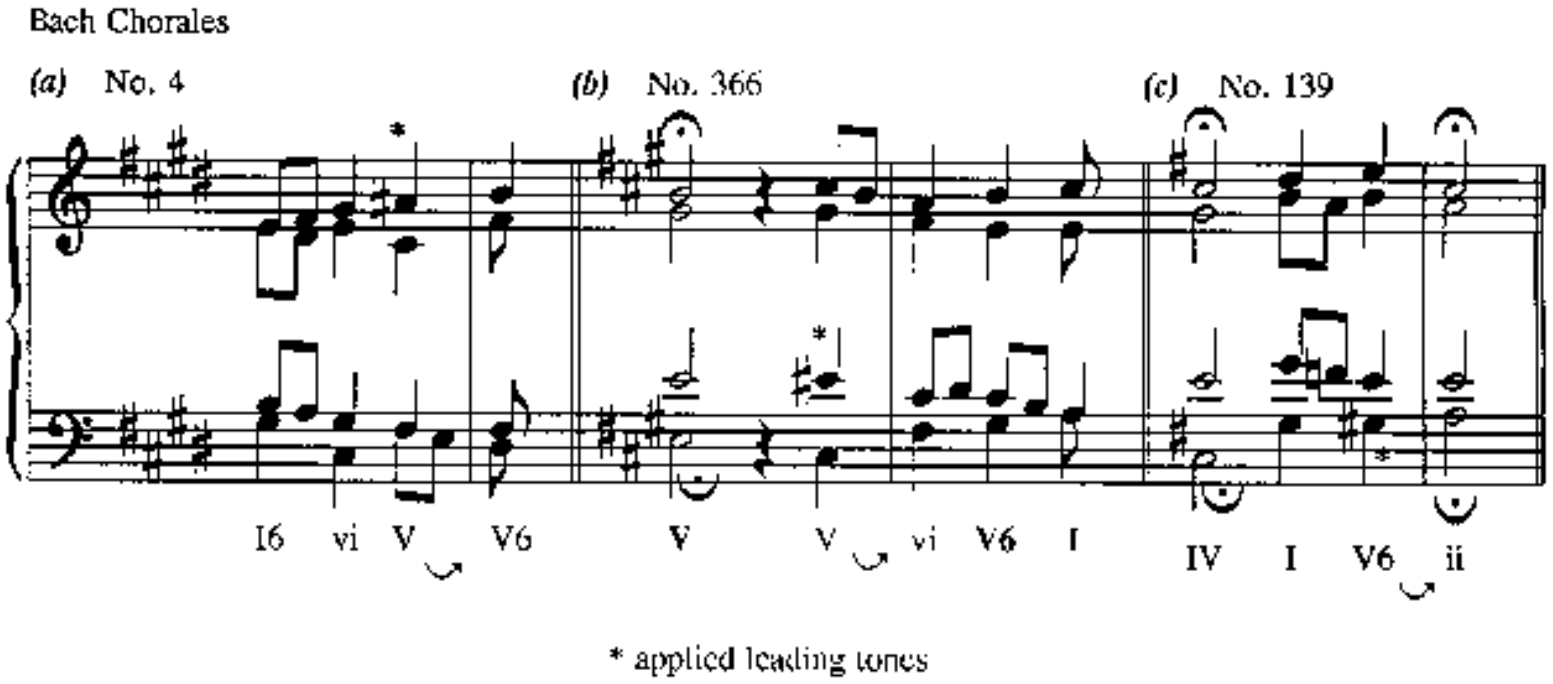
Applied Dominants

The authentic cadence defines a tonic. We can create an artificial authentic cadence to any consonant triad by approaching it from *its* dominant.

APPLIED V

An artificial dominant created to tonicize a triad is called an *applied dominant*. (Some theorists call applied dominants "secondary dominants.")

Structure of the Applied V. The dominant of a key must be both a perfect fifth above its tonic and a major triad. (See example 13-1, below. In the examples, a curved arrow connects the applied chord to the triad that it tonicizes. The chord that precedes the arrow is the applied chord. The chord that follows it is the tonicized triad.)



Ex. 13-1 Applied V

In example 13-1a, Bach raises 4^ (A) to create a leading tone to 5^ (B). The ii triad beneath is now a major triad. It serves as an applied V *of* V. Similarly in example 13-1b, a raised 5^ (E-sharp) provides a leading tone to 6^ (F-sharp). The now major triad above iii serves as an applied V *of* vi.

Inversion and the Applied V. Applied chords serve as voice leading chords, intensifying the motion to a diatonic scale degree. For this reason, they arise naturally in first inversion, placing the applied leading tone in the bass. In example 13-1c, the applied V of ii arises in first inversion as a chromatic passing note between 1^ (bass G) and 2^ (bass A).

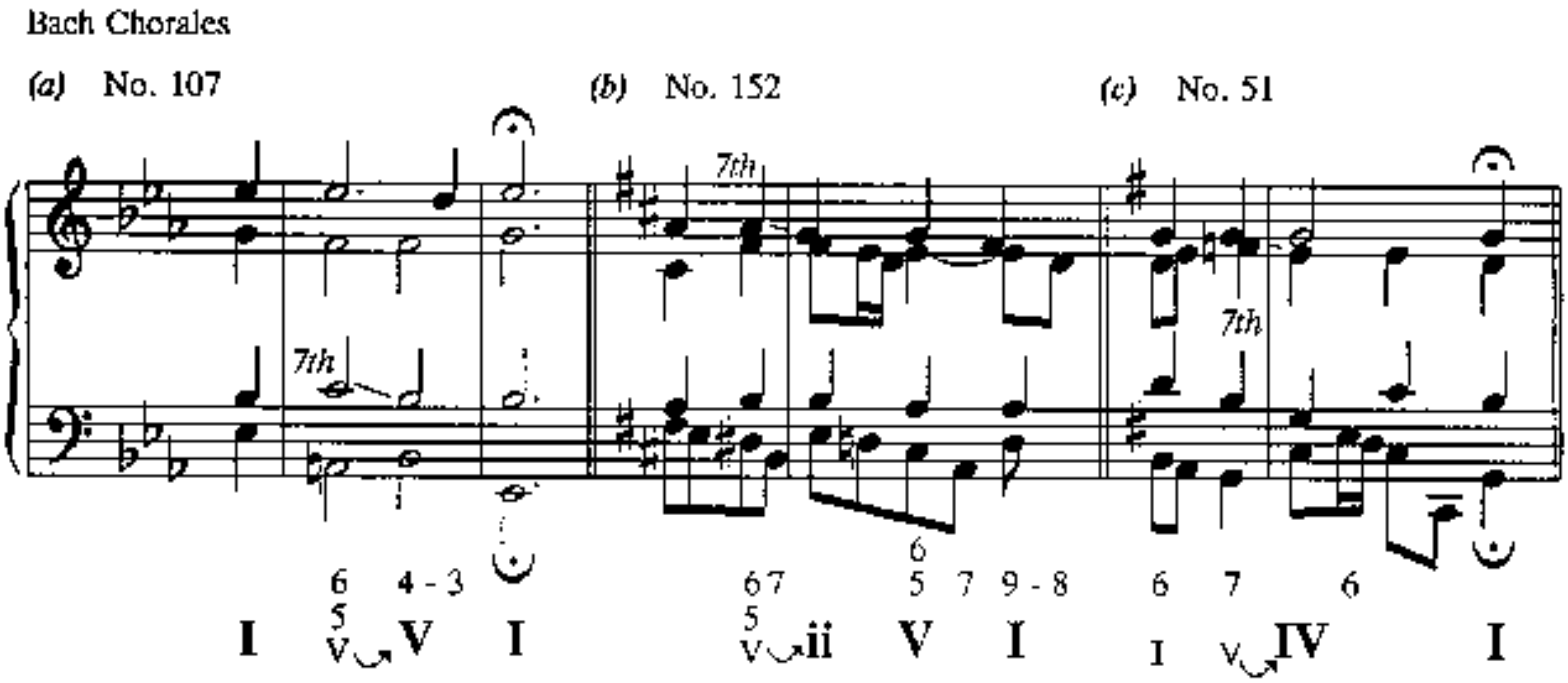
Voice Leading and the Applied V. The applied dominant must *behave* as if it were a dominant. That is, the chord notes of the applied dominant should move strongly to its "tonic." In particular, the new "leading tone" should act like one and resolve to the root of the tonicized triad. (When the applied dominant is in first inversion, this is always the case. However, when the applied dominant is in root position and the applied leading tone is in an inner voice, the resolution is less constrained.)

The Cross Relation. When a cross relation arises during tonicization, we do best to keep the cross relation in the same voice. If we cannot, we should pass the changing scale degree from a weak (inner) voice to a strong (outer) voice (see the discussion of example 13-5, below).

APPLIED V7

Far more common than the applied V is the applied V7. The applied V7 tonicizes a triad more effectively than a simple V. The V7 adds to the V a minor seventh above its root. The V7 thus contains the tritone that occurs naturally between 4^ (the seventh of the V7) and 7^ (the third of the V7) of the new key area or tonicized degree. There is but one tritone in any key. As a result, a key's tritone *defines* that key. When we add a minor seventh to the applied V, we provide not only the "dominant" of the new "tonic," but the defining tritone as well.

Structure of the Applied V7. The V7 must be a perfect fifth above its "tonic" and a major triad. The seventh must stand a minor seventh above the root.



Ex. 13-2 Applied V7

Notice that in example 13-2a and 13-2b the applied leading tone arises and resolves in the bass. In example 13-2a, bass A-natural arises as the applied leading tone of a V6/5 of V. Notice that it resolves to the root of V (B-flat). Similarly, the bass D-sharp of example 13-2b arises as the leading tone within a V6/5 of ii. Here, before resolving, the D-sharp makes a chordal skip to B, the root of the V of ii. The resolution to 2^, follows immediately. Notice that the seventh of each applied V 6/5 resolves down by step.

The applied V7 of example 13-2c tonicizes IV. I is the upper fifth of IV and will serve as the applied chord. I is already a major triad, so Bach does not need to alter it to create the necessary leading tone to 4^. Bach must lower 7^ (F-sharp to F-natural), however, to create the necessary *minor* seventh above the applied V7 on C.

Notice how this F-natural creates a tritone with B. This is the key-defining tritone of C. In gaining this C-defining tritone, we lose that tritone formed between F-sharp and C--the tritone that defines G.

Voice Leading and the Applied V7. Like all sevenths, the seventh of the V7 resolves down by step to the third of the tonicized triad. Note that in example 13-2, each applied seventh does just this. (In example 13-2a, however, Bach suspends the applied seventh into the tonicized V *before* its resolution.)

As a voice-leading harmony, V7 arises most often in first inversion. When in an outer voice, the applied leading tone must resolve to the tonicized scale degree. In any inversion, the seventh must resolve down by step.

Other Applied Chords

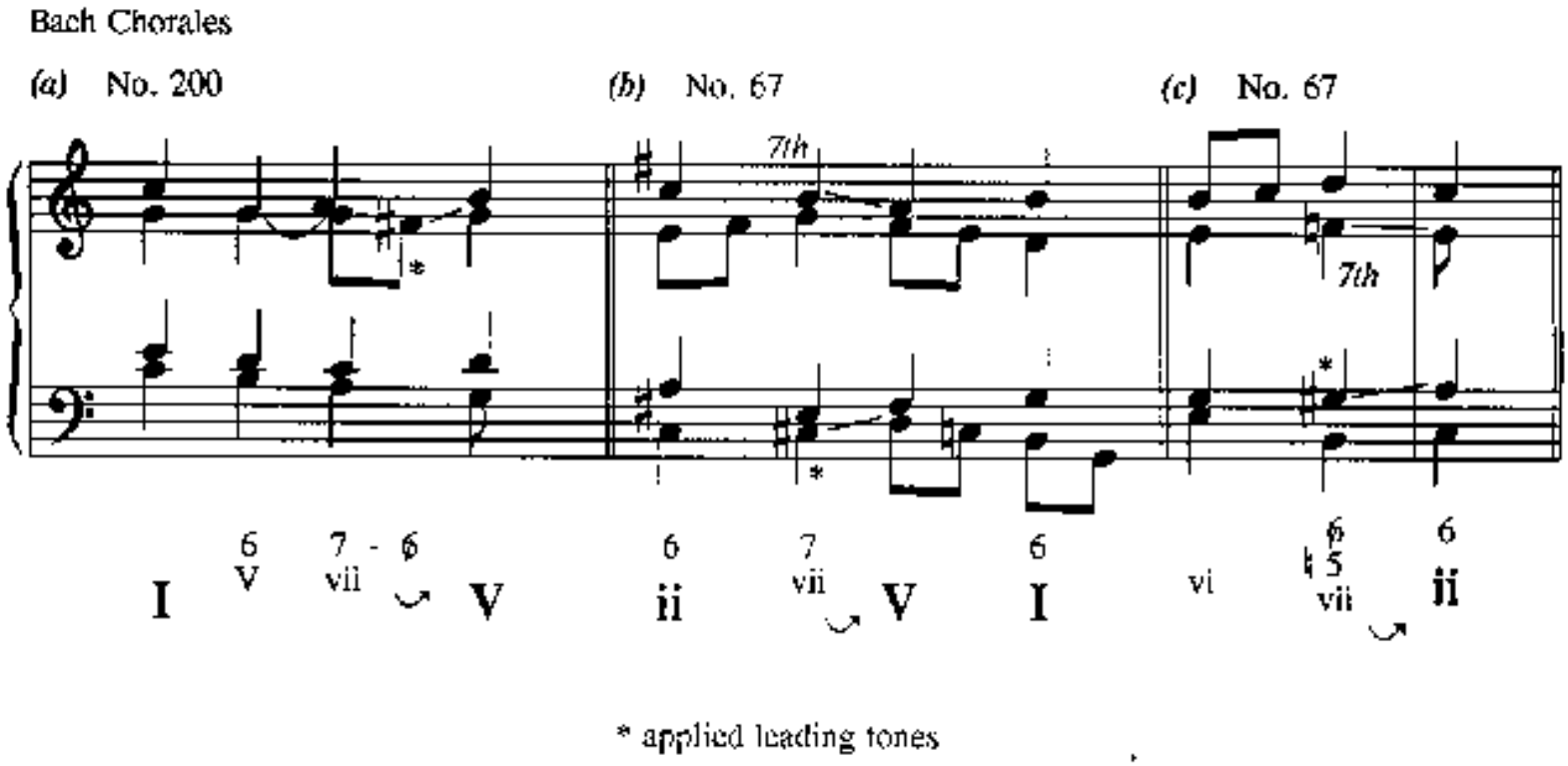
So powerful a tonic-defining interval is the tritone that it can tonicize a triad by itself.

Applied vii and vii7

The leading-tone triad contains as its defining fifth the key-defining tritone. We frequently see a seventh added to vii to enhance its voice-leading potential. Both vii and vii7 move naturally to I. We can tonicize any consonant triad with an applied vii or vii7.

Structure of the Applied vii and vii7. The root of the applied vii or vii7 must be a minor second below its applied tonic--that is, it must be built on an applied leading tone. The applied vii must be a diminished triad.

Voice leading and the Applied vii and vii7. The applied leading tone (the root of vii) should resolve to the new "tonic" (see example 13-3a). Similarly, the seventh of the applied vii7 should resolve down by step to the fifth of the new "tonic" (see example 13-3b).



Ex. 13-3 Applied vii and vii7

Inversions of the Applied vii and vii7. We see the applied vii most often in 6/3 position, where it substitutes for an applied V4/3. The applied vii7, however, arises just as often in root position, substituting for applied V6/5.

THE FULLY-DIMINISHED vii7

The structure of the leading tone triad is the same in both major and minor since, in the minor, the triad is built on raised 7^. However the structure of the vii7 differs between the two modes.

vii7 in the Major. In the major, the seventh of the vii7 stands a minor seventh above its root. Adding a minor seventh to a diminished triad creates a *half-diminished seventh chord*.

vii7 in the Minor. The seventh of the leading tone triad is the sixth scale degree. That seventh must resolve down by step. In the minor, therefore, we do not use raised 6^ for the seventh of the vii7 but unaltered 6^. That unaltered sixth stands a *diminished seventh* above its root, raised 7^. Whenever we add a diminished seventh to a diminished triad, we create a *fully-diminished seventh chord*.

Thus, vii7 has two forms depending on whether we derive it from the major or the minor mode. When creating an applied vii7, which form do we use?

Triad Quality and Tonicization. The diatonic quality of the new "tonic" determines whether the new key area is to be major or minor.

If the tonicized triad is a major triad, the tonicization is major. In example 13-b, an applied vii7 tonicizes V. V is a major triad, so Bach uses a half-diminished vii7 to tonicize it.

If the tonicized triad is a minor triad, the tonicization is minor. Therefore, a vii7 applied to a minor triad should be the fully-diminished seventh found in the minor mode. In example 13-3c, an applied vii7 tonicizes ii. Since ii is a minor triad, Bach uses a fully-diminished vii7 to tonicize it.

Structure of the Applied vii7 in a Minor Tonicization. When it is tonicizing a minor triad, the applied vii7 should be a fully-diminished seventh. The root should stand a minor second below the new "tonic." It should support both a diminished triad and a diminished seventh.

Voice Leading and the Applied vii7 in a Minor Tonicization. The diminished seventh of the applied vii7 in a minor tonicization must resolve down by step to the fifth of the new "tonic." In example 13-3b, Alto G is the fifth of the applied vii7. It forms a diminished fifth with the root (bass C-sharp) and, thus, resolves down by step. In example 13-3c, soprano D stands a diminished fifth above the root of the applied vii6/5. It resolves down by step to C.

MODULATION

On occasion, a tonicization occupies an entire phrase or even an entire section of a composition. Such an extensive tonicization is called a *modulation*. A modulation creates a new *key area*.

General Considerations

Modulation, like tonicization, arises from the composing-out process. Tonicization provides only a momentary emphasis on the tonicized scale degree. Modulation, on the other hand, establishes a new key area. Within this new key area, the tonicized scale degree reigns as "tonic."

A new key area relates to a work's main key area in the same way that the triad on which we base that new key area relates to the tonic triad of the main *key area*. Any consonant scale degree can be tonicized for local emphasis, but usually modulation is limited to the primary scale degrees. These scale degrees play the most

prominent role in composing out the true tonic.

CLOSELY RELATED KEYS

Notice that the key signatures of the primary scale degrees (I, V, and IV) of a given key differ from each other by no more than one sharp or flat. Keys related in this way are called *closely related keys*.

For example, the following keys are considered closely related to C major: V (G major, one sharp), IV (F major, one flat), vi (A minor, no flats or sharps), iii (E minor, one sharp), and ii (D minor, one flat). Notice that the tonic triad of each of these keys is a scale degree triad within C major. Note as well that *the quality of the tonicized scale degree triad determines the mode of the new key area*.

Both iii and V are closely related key areas to I. As a scale degree triad, however, V serves a much more important role than does iii. Therefore, we will see a modulation to V much more frequently than a modulation to iii. Any modulation to iii prolongs a prominent iii within a larger progression. (For example, within a prolonged I-iii-V progression, the third divider, iii, may become tonicized. If the prolongation is extensive enough, the progression might even modulate to iii before completing its motion to V.)

MODULATION AND THE LEADING-TONE TRIAD

We can*not* tonicize or modulate to the leading tone triad, because the leading-tone triad is a diminished triad. A dissonant triad cannot serve as a tonic triad.

In the minor, however, we can tonicize or modulate to the subtonic triad (that is, the unaltered seventh-scale-degree triad). As a major triad, it can serve as a temporary tonic. But, once again, it does do so only by prolonging a prominent subtonic triad within a larger progression.

Modulatory Techniques

To modulate, we must create a definitive progression in the new key area. This is called *establishing* the new key.

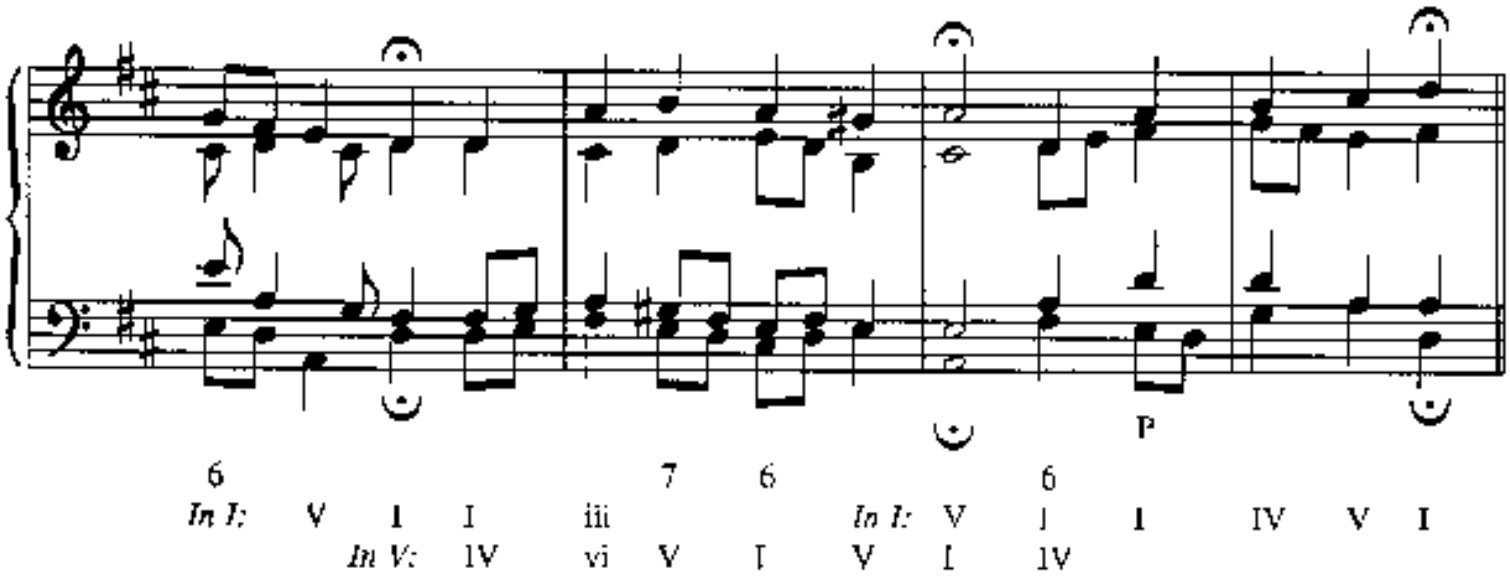
ESTABLISHING THE NEW KEY AREA

Usually an applied chord is necessary in a modulation. However, it is not enough in itself to establish a new key area. We need a more extensive, confirming progression. This often takes the form I-IV-V-I (or I-ii6-V-I) *in the new key*. For example, to modulate to V we must first *tonicize V* with an applied chord. Then we must establish V as a new key area with a confirming progression within the key of V.

TYPES OF MODULATION

Traditionally, two modulatory techniques are used. The first uses what we call a *pivot chord* between the new key and the old. This technique, in effect, overlaps a progression in the old key with the establishing progression in the new key. The second technique is more abrupt, tonicizing the new key with a cross-relation before the establishing progression.

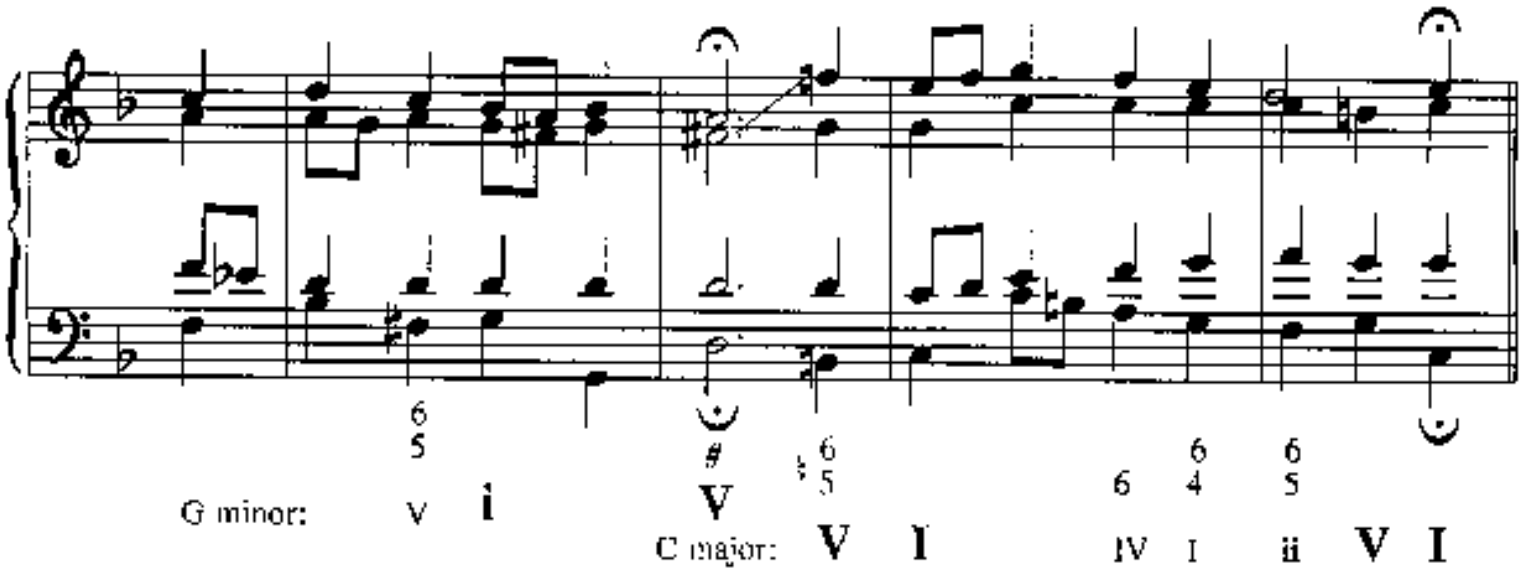
The Pivot-Chord Modulation. A chord held in common between two keys is a *common chord*. Any common chord can serve as a pivot chord.



Ex. 13-4 Bach, Chorale 20

Bach follows the perfect authentic cadence of measure 1 with a modulation to V. In measure 3, he confirms and establishes V as a key area with a perfect authentic cadence to V. The final I of the initial cadence serves as the pivot chord. On reaching the applied dominant to V on the second beat of measure 2, we interpret the weak I-iii motion in the old key area as IV-vi-V in the new key area. The *pivot chord modulation* (sometimes called a "common-chord modulation") is by far the most common modulatory technique.

Modulation By Cross-Relation. We can, on the other hand, avoid a pivot chord by moving directly from a chord found in the old key but not in the new key to a chord found in the new key but not the old. When we use this technique to modulate between closely related keys, a cross-relation results. Such a modulation is abrupt and dramatic by comparison with the pivot-chord modulation.



Ex. 13-5 Bach, Chorale 74

The first part of example 13-5 provides a clear half cadence in G minor. Bach leaves the cadential V with a chord that clearly contradicts the G tonic, however. On the last quarter of the second full measure, the soprano leaps from A up to F-natural. This F-natural creates both a cross relation with the F-sharp leading tone (alto) that preceded it, and a dissonance (diminished fifth) above the bass B-natural. This major-minor 6/5 on G cannot be tonic. The F-natural destroy the leading tone of G at the same time it creates an applied V6/5 that points to C. The F-B tritone (between soprano and bass) is the key-defining tritone of C. It immediately (measure 3) resolves to C (IV), tonicizing it. Bach makes of this tonicization a modulation, by continuing to progress as if *in*C. He confirms C as tonic with an imperfect authentic cadence at the end of measure 4.

This modulation hinges on the cross-relation of measure 2. Therefore, Bach makes the cross-relation clear by passing the changing scale degree from a weak inner voice (alto) to a strong outer voice (soprano). The effect is startling but, at the same time, perfectly clear. (If the cross-relation does not pass from an inner voice to an outer voice, it should be kept within the same voice.)

Summary:

We can intensify a scale degree triad by tonicizing it. We do so by approaching it from an applied chord. An applied chord reproduces the V, V7, vii, or vii7 that is found in the key of the tonicized triad. The applied chord behaves as if the tonicized triad were, in fact, "tonic."

The quality of the tonicized triad determines the mode of tonicization. In a major key, vii7 is a half-diminished seventh. In a minor key it is a fully-diminished seventh. So when creating an applied vii7 to a major triad, we construct a minor seventh above the applied leading tone. When creating an applied vii7 to a minor triad, we construct a diminished seventh above the applied leading tone.

A modulation is an extended tonicization. Usually, a modulation begins with a tonicization. However, after tonicizing a triad, we must then establish the new key area. *We do so with a confirming progression in the new*

key area. This confirming progression may be an authentic or half cadence. It may simply involve the principal triads of the new key area. In either event, it must do more than merely provide an applied chord to the tonicized triad.

Modulation can be either gradual or abrupt. We effect a gradual modulation by using a chord or succession of chords, called pivot chords, shared by the old and the new key areas. An abrupt modulation with a cross relation takes us immediately from a chord not found in the new key area to a chord not found in the old key area. We must be careful either to keep the cross-relation in the same voice, or pass it from an inner voice to an outer voice.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapter 25.
- Christ, William, et al. *Materials and Structure of Music*. 3d ed. Vol. I. Englewood Cliffs, NJ: Prentice-Hall, 1980. Chapters 20-21.
- Kostka, Stefan, and Dorothy Payne. *Tonal Harmony*. 2d ed. New York: Alfred A. Knopf, 1989. Chapters 16-19.
- Ottman, Robert W. *Elementary Harmony*. 4th ed. Englewood Cliffs, NJ: Prentice-Hall, 1989. Chapter 12.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapters 14-16.
- Schoenberg, Arnold. *Structural Functions of Harmony*. Rev. ed. Edited by Leonard Stein. New York: Norton, 1969. Chapters 3-4.
- Schoenberg, Arnold. *Theory of Harmony*. Translated by Roy E. Carter. Berkeley: University of California Press, 1983. Chapters 9-10.

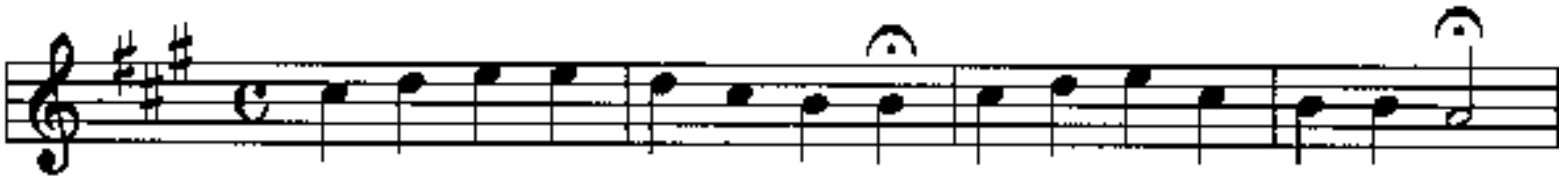
top | bottom | next chapter | previous chapter

Harmonizing a Melody

Harmonizing a chorale melody gives you the opportunity to call on all the techniques and skills covered in the prior chapters. Harmonization is a three stage process. First, analyze the given melody. (That is, determine how the tune composes out its tonic triad.) From this you can determine the nature and location of any cadences. Next, compose a bass against the given soprano. (This bass arises from analysis of the melody.) Finally, realize the inner voices.

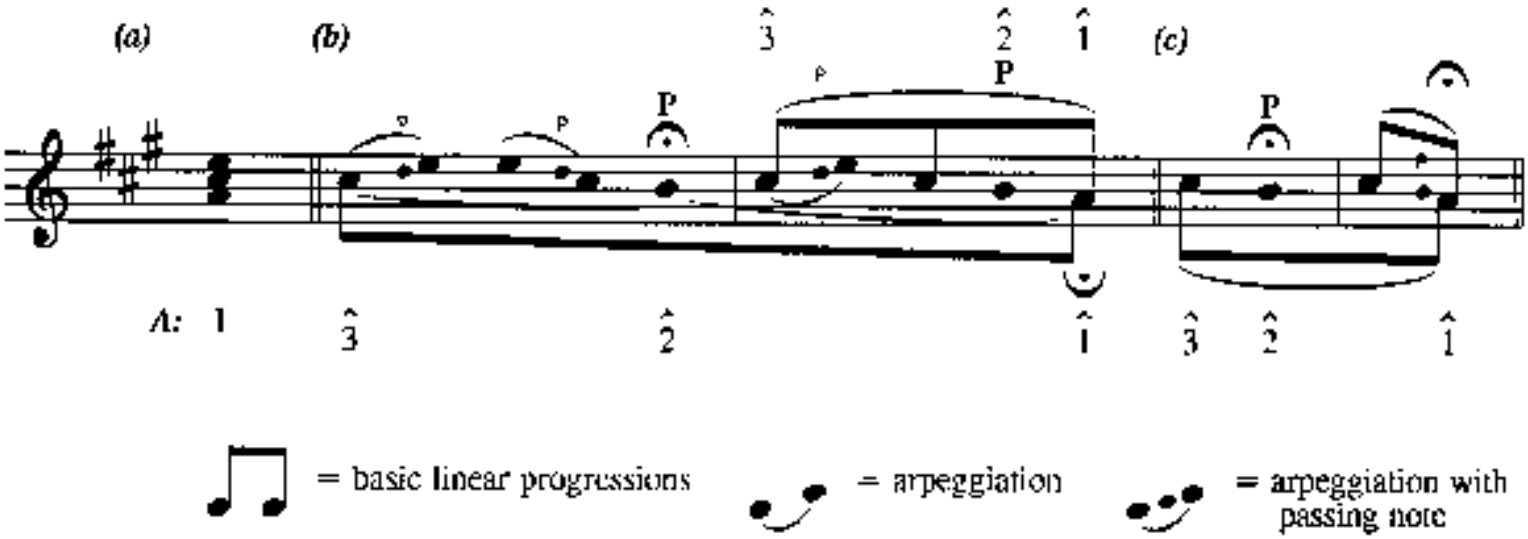
MELODIC ANALYSIS

Consider the following chorale tune:



Ex. 14-1 Chorale Tune, *Werde munter, meine Gemuthe*, first two phrases

To harmonize this tune, we must first understand it as an expression of its tonality. That is, we must understand the way in which it composes out its tonic triad. First, we analyze this tune through its tonic triad (example 14-2a). When we do, we uncover a series of arpeggiations filled in by passing notes.



Ex. 14-2 Basic Analysis of Example 14-1

The first phrase (example 14-2b, measure 1) arpeggiates from to and back again, filling in the arpeggiations with passing notes. The half cadence arises as this prolonged begins its descent to . The tune pauses on the that passes between them to create this half cadence. The second phrase (example 14-2b, measure 2) begins like the first phrase with an arpeggiation from to . However, the repetition of the first phrase is abbreviated, returning to without a repetition of and without the second passing 4^ (D). This allows the second phrase the time needed to complete the passing motion from to . The second phrase ends on a perfect authentic cadence, having completed the motion from prolonged (first phrase) through a passing (half cadence) to .

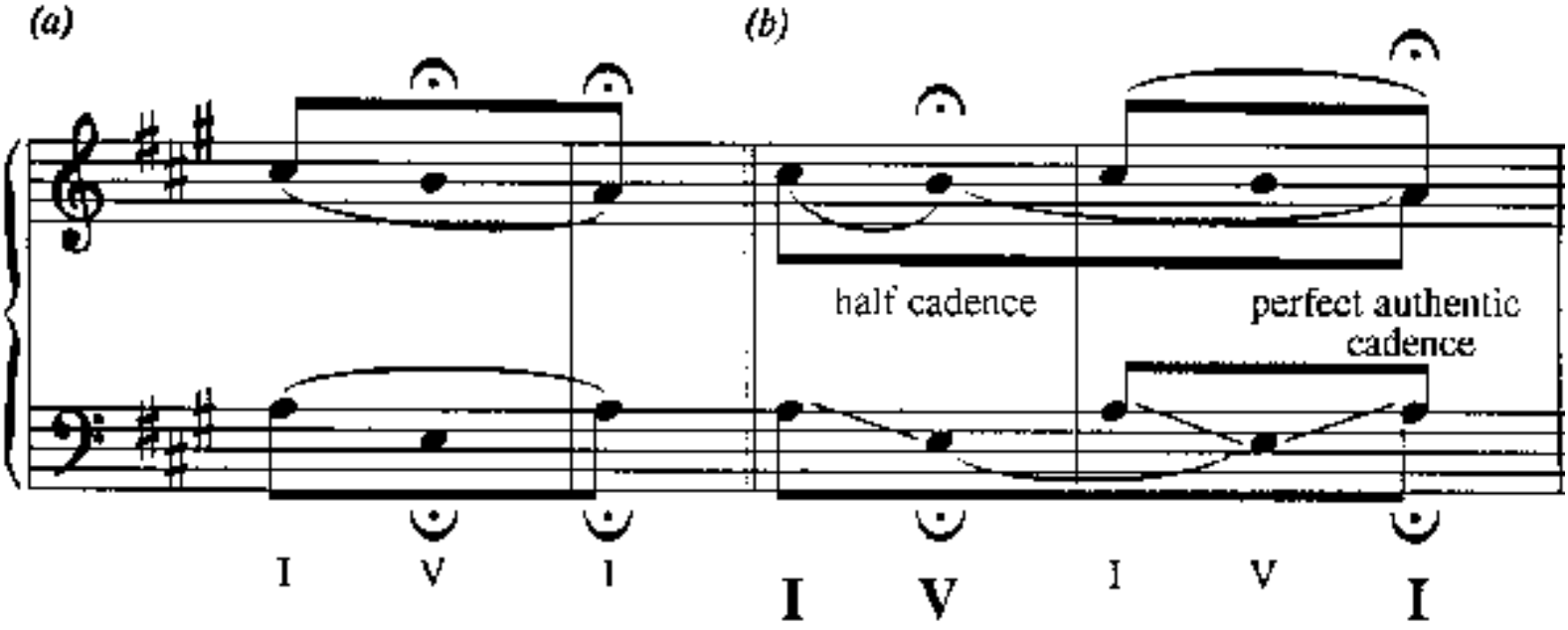
Notice that all these embellishments seem to form themselves around a single - arpeggiation, prolonged with a passing note and becoming - - (see example 14-2c). The first phrase stops prematurely on with a half cadence. The arpeggiation reaches only at the end of the tune and after a repetition of the same basic - -) motion.

ESTABLISHING THE BASS

Begin establishing the harmonic structure by sketching the bass.

Structure of the Bass

We support the basic - - soprano progression (illustrated in example 14-2c) with the tonic and its upper-fifth divider in the bass (see example 14-3a).



Ex. 14-3 Analysis with Cadences

We support the repetition of that structure in the second phrase the same way (see example 14-3b). The tonic prolonged by its fifth divider will form the backbone of any complete tonal structure.

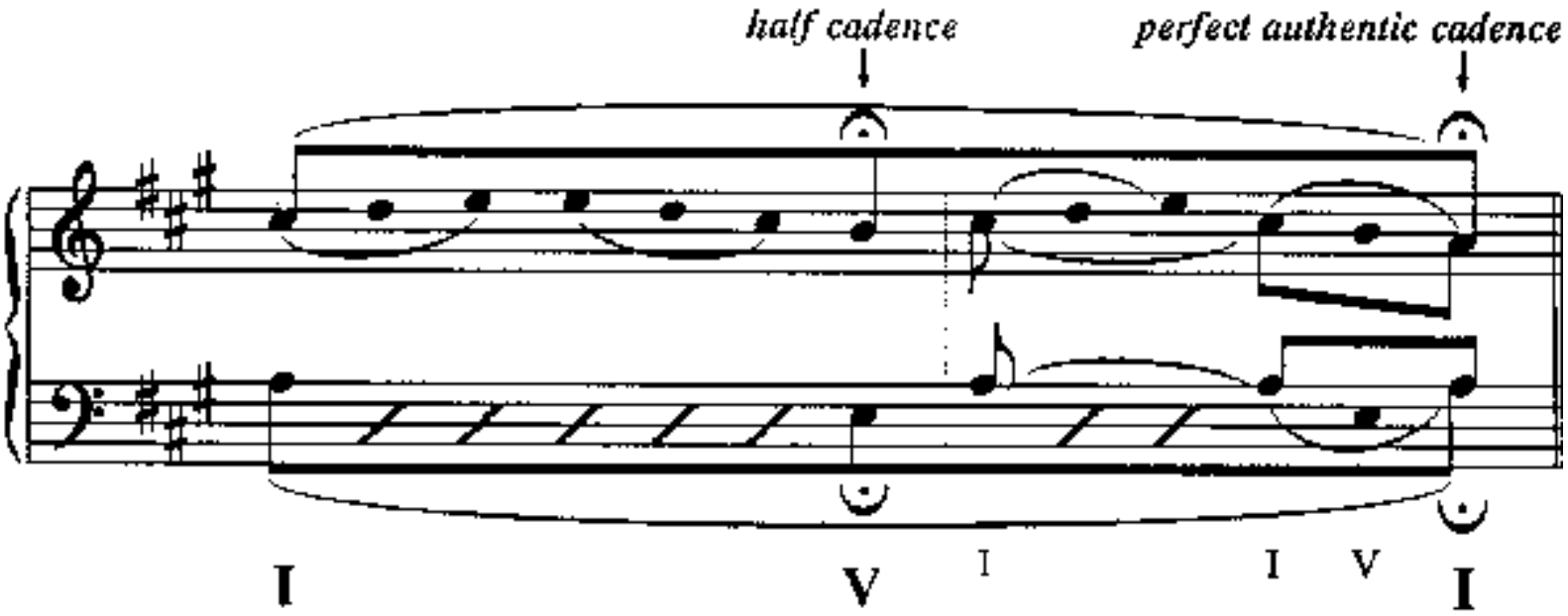
The Cadences

The simple analysis in example 14-2c now allows us to chose appropriate cadences (example 14-3b). The final move to should involve a perfect authentic cadence. This appropriately reinforces the completion of the large-scale arpeggiation from to . Notice that the bass line of example 14-3b already provides the necessary V-I progression below the soprano -.

But what of the first phrase cadence to ? *A cadence to the passing note between and signals the half cadence* (see Chapter 6). The cadence to V (measure 2) provides consonant support for that passing . Notice that our working bass already provides the necessary progression for this half cadence, as well.

Voice Leading Connections

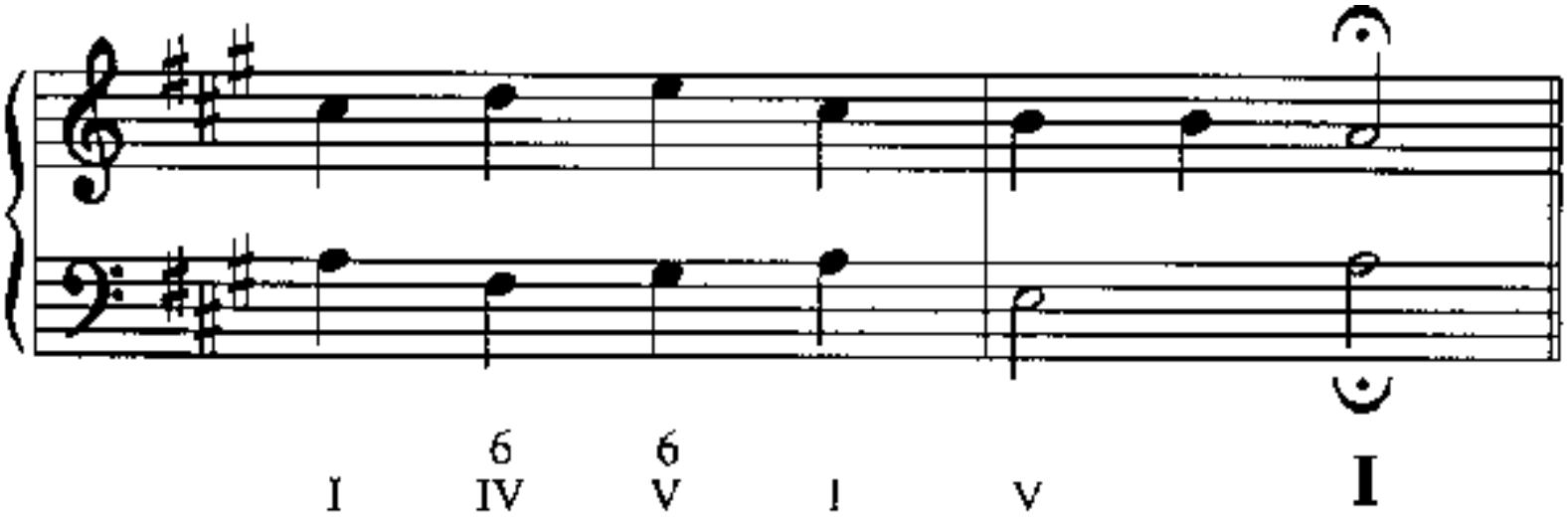
This is how the working bass line stands against the melody:



Ex. 14-4 Melody with Working Bass

COMPLETING THE BASS OF THE SECOND PHRASE

The bass of the second phrase is now almost complete. We need only provide some sort of voice-leading connective between the root-position tonics that begin the second measure of example 14-4. We might accomplish this by dropping to the lower-third divider (vi or IV6), and then moving through a passing back to (see example 14-5).

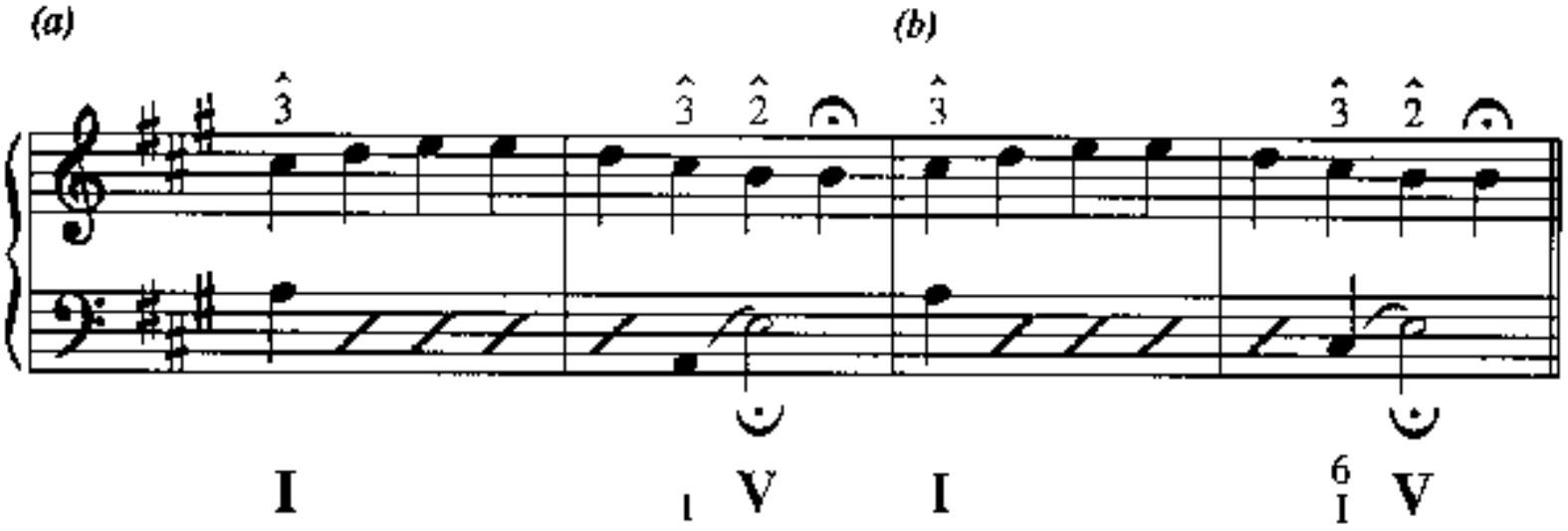


Ex. 14-5 Second Phrase with Bass

Here, a first-inversion IV here is preferable to a root-position vi. The inversion is less stable and more clearly a voice leading harmony. Similarly, the V6 that follows makes clear the linear origin of these harmonies.

COMPLETING THE BASS OF THE FIRST PHRASE

In completing the first phrase, we must first complete its cadence - the half cadence in measure 2. As a rule, you should approach a half cadence from I. The [ ]-[ ] soprano cadence allows this. I will support [ ] as it moves to the V-supported [ ] (see example 14-6a).



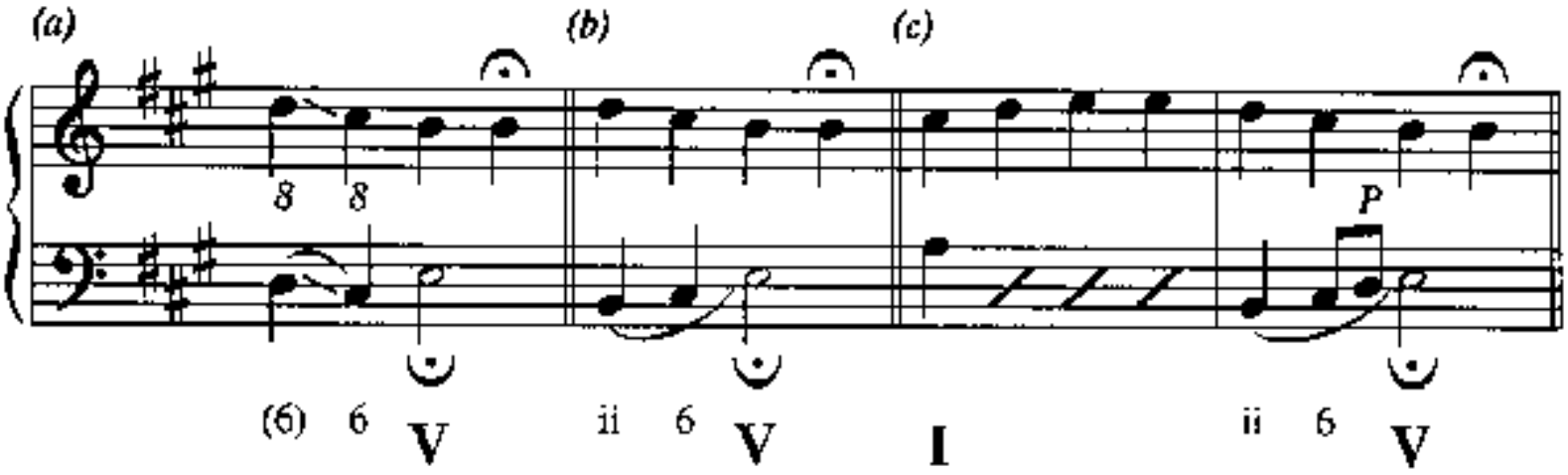
Ex. 14-6 Approaching the Half Cadence

However, root-position I does not function well as a voice-leading chord. Therefore, we will place it in first inversion (see example 14-6b, above). Now this new I arises in inversion on a weak beat as a voice leading harmony to the cadential V. So it cannot be confused with the root-position tonics that support the basic [ ]-[ ] structure.

We now must complete measure 1. To complete the first phrase, we need a voice-leading progression that takes us from the opening root-position tonic to the final cadential dominant.

Consider what this means. First, each chord must be a voice-leading chord. (That is, it will not be part of the basic harmonic structure outlined above.) Second, each voice-leading chord must *lead* somewhere. Each must take us closer to the cadential V. (These voice-leading chords will *not* lead to the I6 on beat 2 of measure 2. Remember, this I6 is part of the same *voice leading* motion to the cadential V. I6 is not the goal here, V is.)

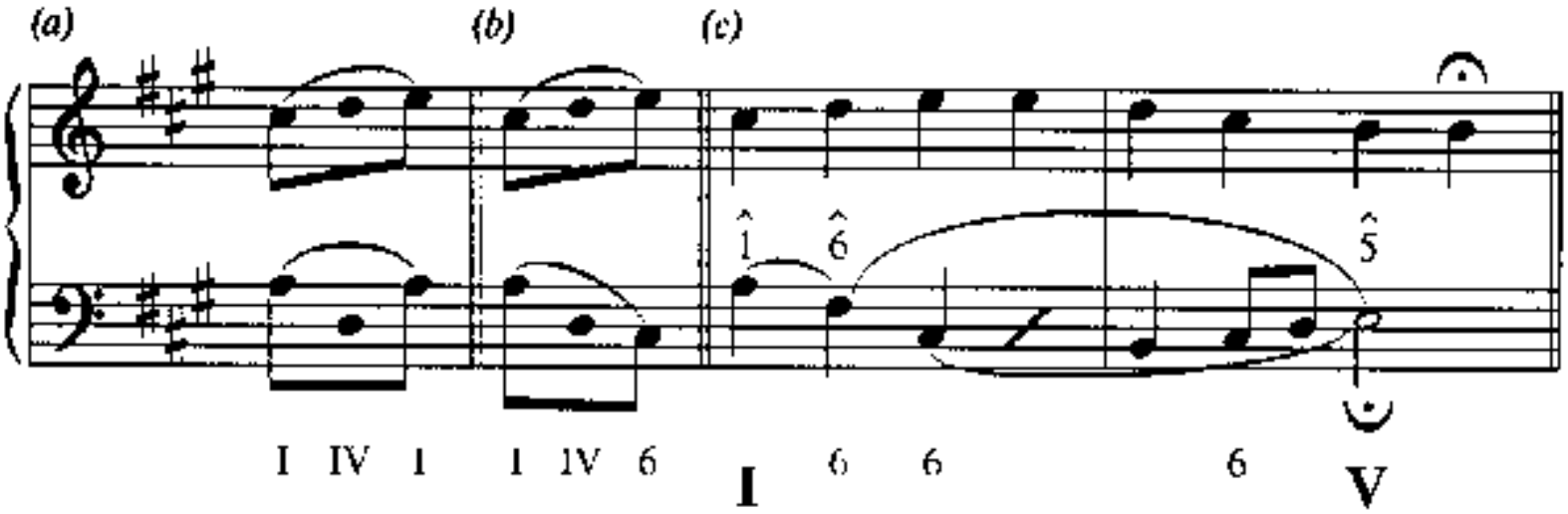
From Chapters 6 and 7, we know that IV (or ii) provides the best approach to V. Placing either IV or ii on the strong first beat of measure 2, creates a IV(or ii)-V progression between the strong beats of the measure. We have two choices: a bass 4^ (IV or ii6, example 14-7a) or a bass (ii, example 14-7b).



Ex. 14-7 First Phrase One: Measure 2 Bass

Neither IV nor ii6 (14-7a) will work. If we are to move from bass 4^ (measure 2, beat 1) to bass (measure 2, beat 3), the bass makes no sense. It moves in the wrong direction - not toward bass- but *away* from it. (Even if it made sense, the parallel octaves that result between bass and soprano rule out this alternative.) A root-position ii, however, makes sound voice-leading sense (14-7b). Root-position ii serves as a fifth divider to V. In this context, the following I6 takes us closer to bass . In fact, by adding an unaccented passing note between the bass of this I6 and V, we create a nice fourth progression from root-position ii to V (14-7c).

We now have a strong approach to the half cadence of measure 2. Let us return to measure 1.

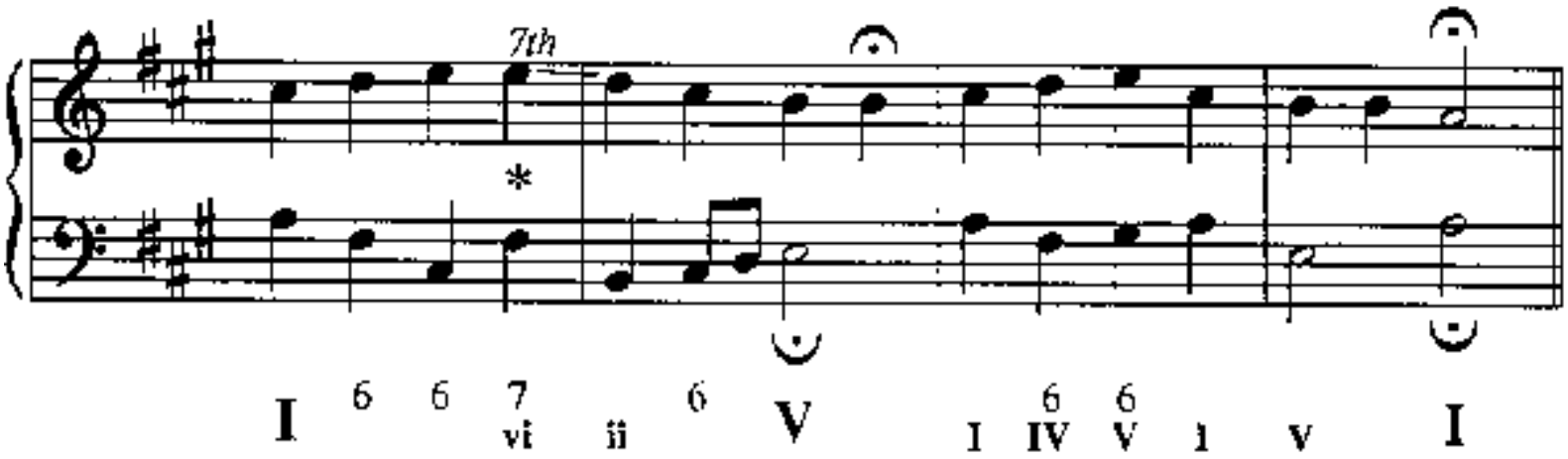


Ex. 14-8 Completing the Bass

The [ ]–[ ] arpeggiation of the first measure calls for a lower-fifth divider prolongation (see example 14-8a). However, the root-position I below the soprano [ ] gives undue emphasis to the [ ] (which is *not* an element of the basic [ ]–[ ]–[ ] structure). We therefore convert this I to a voice leading I6 (see example 14-8b). Remember: A voice-leading chord must lead somewhere. Hence we use the lower octave for this bass-[ ] where it serves as a upper neighbor to the bass [ ] that follows in measure 2 (see example 14.8c).

The approach to measure 2 is now strong. However, the opening bass [ ] remains separate from the voice-leading progression that follows. (That is, we have skipped from it down to a lower register). Converting the lower-fifth divider (IV) to first inversion creates a voice-leading connection between the initial [ ] and the final [ ] (at the end of the phrase) in example 14-8c, where slurs outline this connection.

Now we have only one chord to go. The bass (measure 1, beat 3) stands only a step away from the first beat of measure 2. We cannot make the bass line move any more easily from [ ] to [ ]. We must, therefore, prolong either the chord we are leaving (that is, the I6 on beat 3) or the chord to which we are moving (ii on beat 1 of measure 2). Root-position ii, as fifth divider to the cadential V, is the more important chord, because it is in root position and it helps prolong an even more important chord - the cadential V. So, it is best to prolong that ii back into the last beat of measure 1. We accomplish this with the upper-fifth divider of ii, or vi marked with an asterisk in example 14-9.



Ex. 14-9 The Completed Bass Line

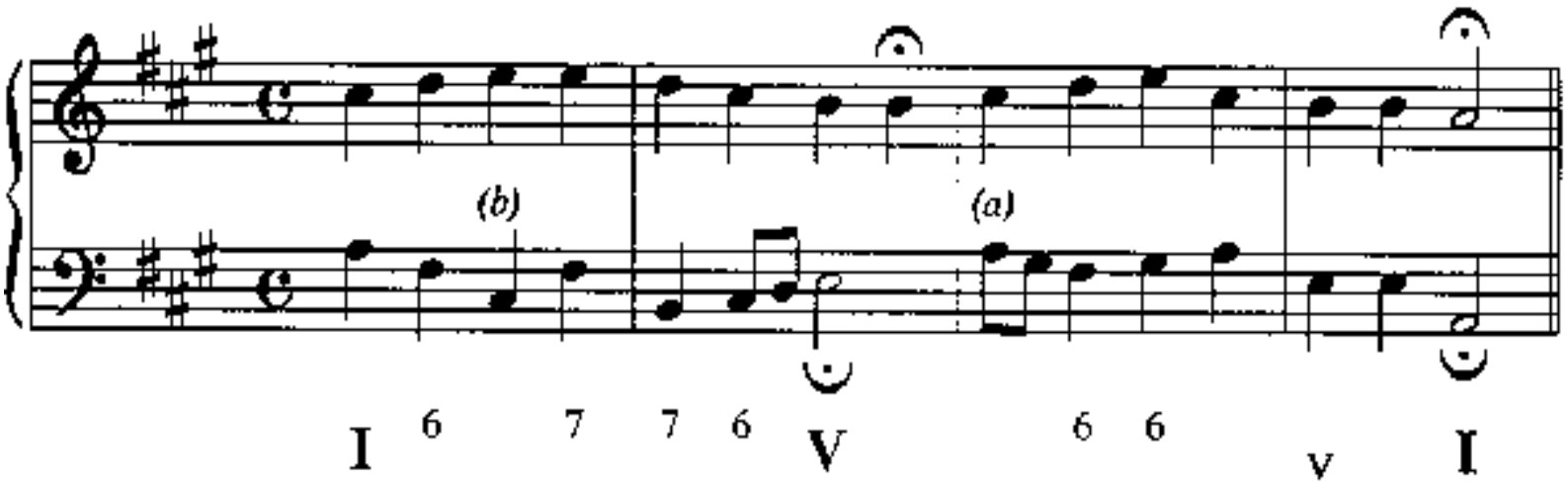
Soprano [ ] becomes the dissonant seventh of that vi. The dissonance enhances the voice-leading quality of the vi. The resolution of the dissonant [ ] to 4^ above ii helps provide a tonic accent on ii, the principal voice-leading connection to the cadential V.

The Completed Bass

Our bass is now complete. Compare it with a bass provided for this same tune by J. S. Bach.

BACH'S OWN VERSION

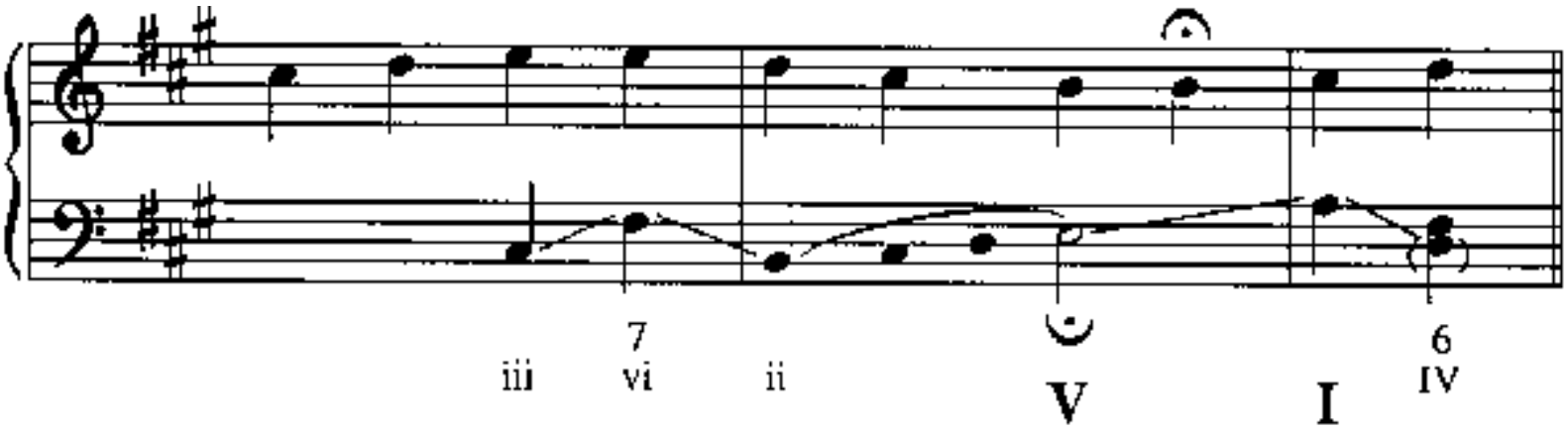
Bach wrote five different harmonizations of this tune. Let us look at the bass from the one that most resembles our own.



Ex. 14-10 Bach, Chorale 233, soprano and bass only

Bach's bass differs from ours in two details. First, he adds a passing note to connect the I-IV6 progression of measure 3. Compare ***(a)*** in example 14-10 with example 14-9. He makes a more significant change in measure 1, however, at ***(b)*** in

example 14- 10. Bach *uses not a I6 but a root-position iii*. (He keeps the same bass, but provides different harmonic support.) If you consider the bass line, ignoring the figures, you will see why. A succession of descending fifths moves from the third beat of measure 1 (bass) all the way to the cadential V (bass) (see example 14-11). The fifths continue on from that bass to the following root-position I (measure 3, beat 1) - and even further, to the root of the following IV6.



Ex. 14-11 Bach, Chorale 233, bass and soprano

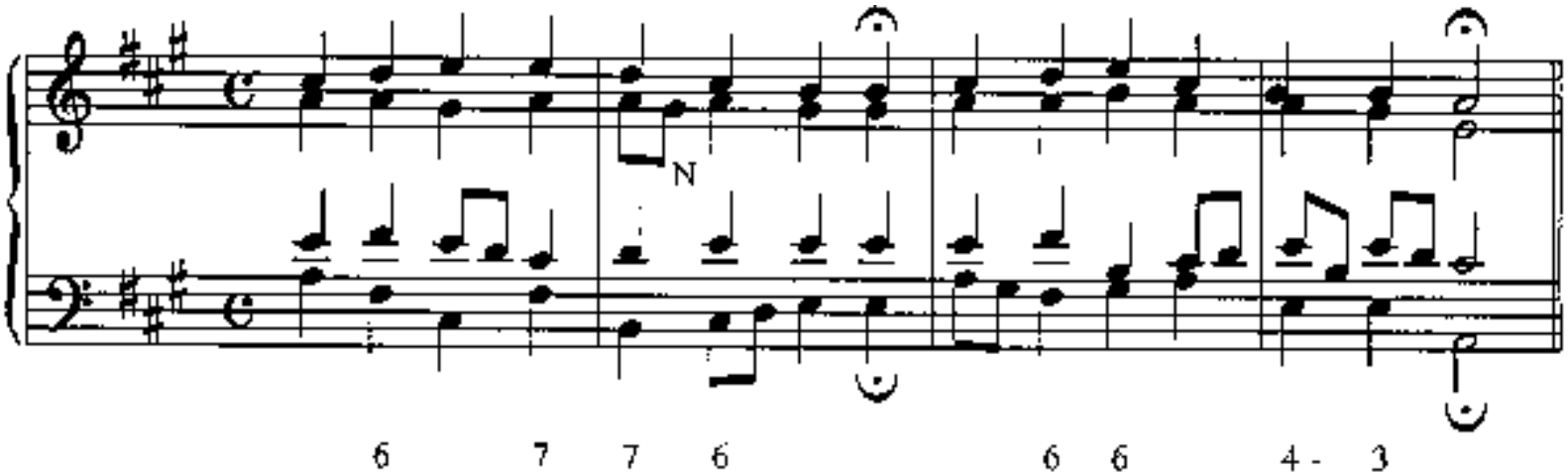
Except for our I6, then, each chord approaches the next as its upper-fifth divider. This sequence of upper-fifth dividers ends only at the beginning of the second phrase. By using iii instead of I6 as harmonic support for the bass (measure 1, beat 3), Bach provides the missing upper-fifth divider for vi.

Remember: As support for a voice-leading harmony, the scale degree in the bass is much more important than the chord that it supports.

Thus, the iii that replaces I6 does not change the voice leading function of the line. Rather, it continues and makes clear that succession of descending fifths that leads us to cadential V - and then on to I.

The Inner Voices

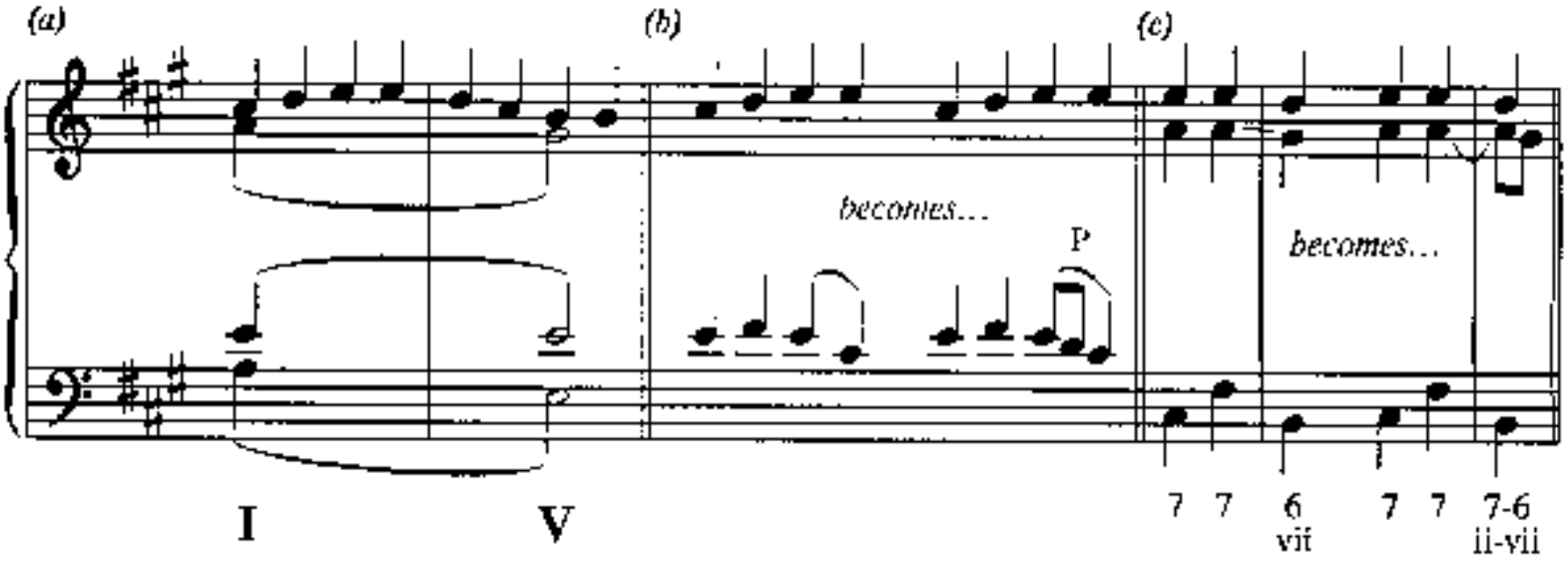
Before we begin adding the inner voices, let us look at Bach's complete harmonization of these two phrases.



Ex. 14-12 Bach, Chorale 233

Notice that (except for the second phrase tenor) both alto and tenor have very simple lines, moving mainly by step and common notes. As a rule, *the inner voices arise naturally from the completed bass and soprano if the voice leading of the bass in relation to the soprano is strong*.

INNER VOICES OF THE FIRST PHRASE

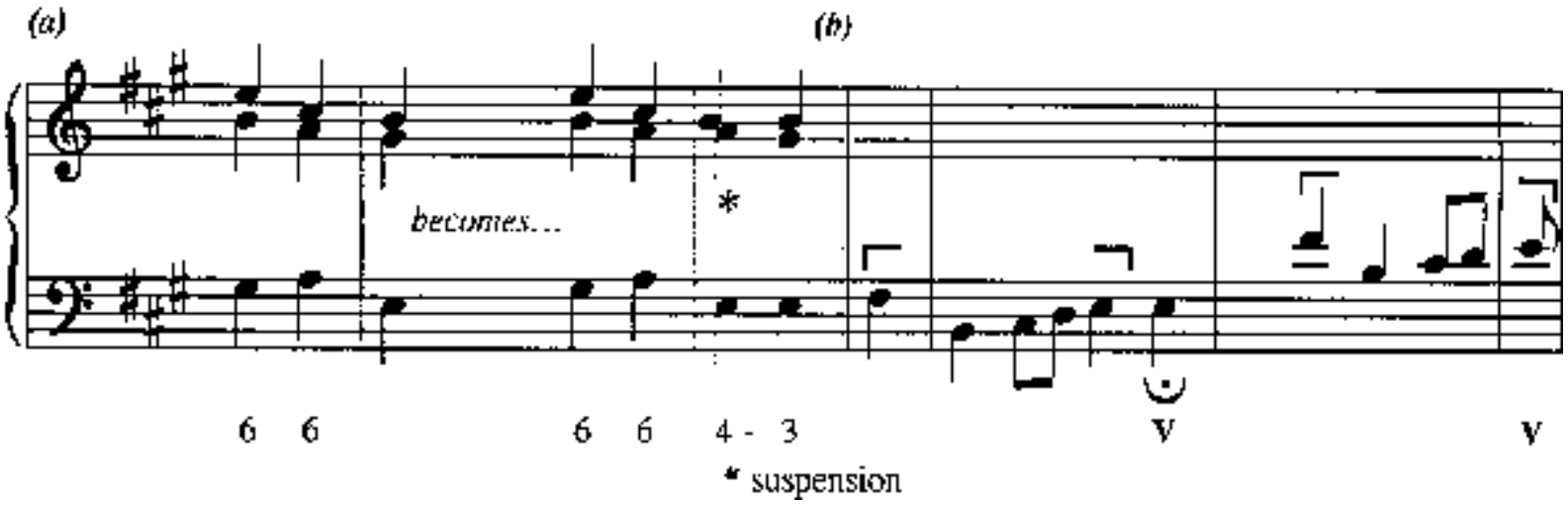


Ex. 14-13 First Phrase: Alto and Tenor

Bach's bass is strong, so let us begin examining the inner voices by looking at the relationship between the beginning and end of the phrase (see example 14-13a).

By establishing a clear voice leading relationship between the initial tonic and the final dominant, Bach makes it possible for the inner voices to move simply by step or common note. Notice that the tenor does leap a third between the third and fourth beat of measure 1. Bach fills in this leap with a passing note (see example 14-13b). On beat 1 of measure 2, Bach decorates the dissonant seventh above ii with a neighbor note (see example 14-3c).

INNER VOICES OF THE SECOND PHRASE



Ex. 14-14 Second Phrase: Alto and Tenor

Bach's phrase-2 alto is straightforward. The only embellishment is a suspension at the cadence (see example 14-14a). The dissonance both provides a tonic accent on the cadential V and dramatically delays the arrival of the leading tone (G-sharp).

The phrase-2 tenor, however, is more idiosyncratic. Why this leap down a fifth (measure 3, into beat 3)? Why the doubled thirds (measure 3, beats 2 and 4)? We could come up with several different versions of this tenor, each moving smoothly by step and providing "better" doubling. We could do that, but so - we must assume - could Bach. (In fact, he *did*. See the same spot in Chorale 365, Appendix M, where the same bass, soprano, *and* alto support a conventional tenor.)

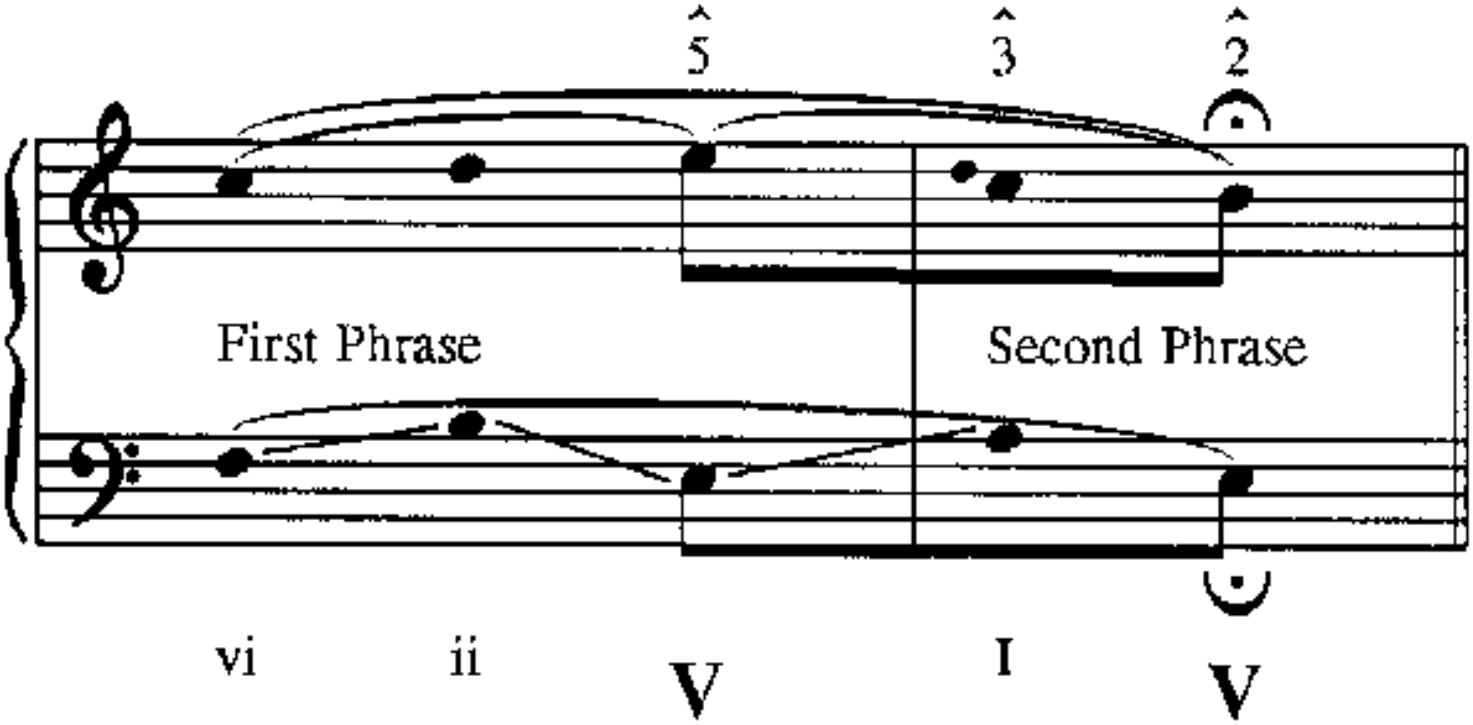
We will not find an explanation for this strange tenor in the realm of theory but in the realm of art.

Compare the tenor of measure 3 with the bass of measure 2 (see example 14-14b). The tenor of measure 3 reproduces the bass of measure 2 an octave higher. As a result, the bass motion that brought us to the half cadence (measure 2, beat 3) now moves to the tenor. There it sets up the cadential dominant of the final authentic cadence (measure 4, beat 3).

We might say that the tenor here answers a much higher call than just "good voice leading." It turns an exercise into a composition - one whose parts relate to the whole in rich and unexpected ways.

Other Harmonizations

Take time now to inspect the four additional Bach harmonizations of this tune found in **Appendix M**. Notice that, although each differs in detail, three reflect a similar understanding of the harmonic structure of the tune. Chorale No. 121, however, stands apart. It delays the arrival of the first tonic until the second beat of measure 2. That delayed tonic seems to function as fifth divider of that root position V that precedes and follows it. As a result, the first phrase of Chorale 121 seems to prolong the descent from to .



Ex. 14-15 Bach, Chorale 121, analysis of the first phrase

Note *how* Bach delays the arrival of the tonic. The vi-ii-V-I-V motion that begins, in the other harmonizations, only on the last beat of measure 1, begins here on the first beat. Tonally, Chorale 121 begins as if in left field, eventually homing in on the tonic, but only as lower-fifth divider to a cadential V. It is not until the second phrase that Bach locates the tonic securely beneath , and completes the - - motion that spans both phrases.

Harmonizing a tune requires three steps:

1. Analyze the tune to determine how the tune composes out its tonic triad and to determine the basic structure, the framework on which the composer built the tune.
2. Construct the bass. The bass should reflect the basic structure by outlining the basic scale-degree motion of the chords. Complete the bass with voice-leading chords that connect the harmonies of the basic progression.
3. Realize the inner voices. Our goal is "good voice leading." But as we saw in our Bach example, broader compositional goals can excuse deviations from basic voice leading guidelines. Such deviations do not *arise from the need for "variety," however, but from the effort to create a richer and more complex relationship among the parts.*

For Further Study

- Cooper, Paul. *Perspectives in Music Theory*. 2d ed. New York: Harper & Row, 1981. Chapter 19.
- Ottman, Robert W. *Elementary Harmony*. 4th ed. Englewood Cliffs, NJ: Prentice-Hall, 1989. Chapter 11.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapters 9-10.
- Schoenberg, Arnold. *Theory of Harmony*. Translated by Roy E. Carter. Berkeley: University of California Press,

1983. Chapter 16.

top | bottom | next chapter | previous chapter

Introduction

What is "Common Practice" and what is "Tonal"?

Let's begin with a familiar metaphor that likens music to language. All languages possess processes and principals for the ordering of certain types of words and phrases (nouns, noun-phrases, verbs, verb-phrases, adjectives, etc.). Regardless of how languages evolve and change, all of us learn to speak without being conscious that we are using such abstract processes. Linguists call these processes grammars and they develop theories which explain how grammars work in particular places at particular times in history.

Music theorists usually refer to musical grammars as systems. During the fifteenth and sixteenth centuries in Western Europe, a particular musical grammar we call the modal system gradually evolved into the musical grammar we call functional tonality or, more simply (and arrogantly), the tonal system. This new grammar for governing the relationships of pitches and rhythms characterized most of the Western European music of the seventeenth, eighteenth, and nineteenth centuries, what we now know as the common practice period. By the end of the nineteenth century, this common tonal system underwent another period of dramatic evolution which for many modernist composers lead to the adoption of radically new grammars. Now, at the end of the twentieth century, common-practice tonality--to the extent that it survives at all--is the provenance of some post-modern musicians of the "classical," jazz, and popular music styles.

Why "Composition" and Not "Theory"?

What is Composition? This course requires students to apply the concepts and processes presented to write music. Even though the techniques described are modest and circumscribed, they will still allow you considerable creative latitude. To compose is to make choices; to compose well is to make choices that resonate (in the music that will follow) and that are resonant (of the music that has preceded). By this definition, composition involves accepting and imposing norms. It is by learning to establish clear norms that we learn to create expectations; and it is by creating expectation that we learn how to dramatically fulfuill, delay, or frustrate these expectiation. And although it is the later that we value in the music we love, it is the former that makes it possible.

What is Theory? Since the eighteenth century, many musicians have sought to explain common-practice tonality, to give it a theoretical grounding. They succeeded in giving tonality many theoretical

groundings, each incomplete. Today, music theory is a separate field of academic study, a large and active one. Most modern texts on tonal theory are not written by composers (or, for that matter, active musicians), but by scholars--music theorists. As a result, these texts aim not so much to teach the student how to write tonal music (or how it was written) as how to understand it.

There are as many ways to understand--that is, theories of tonal music--as there are theorists (or alternatively, as there are pieces of tonal music to describe). Still, we can generalize. At one extreme of the music theory spectrum are the chord grammarians; at the other the adherents of the theories of Heinrich Schenker (German pianist, music theorist, and sometime composer, 1868-1935). The former concentrate on chords, and the ways in which chords may be strung together. The latter concentrate on linear structure, on how the particular expresses the general.

Our approach here borrows freely from both ends of this spectrum, for each has something to offer. It assumes that (a) tonality is too rich and complex to yield to a single explanation and that (b) understanding (not the sort that leads to theory texts, but that leads to enhanced enjoyment and continued enrichment of musical experience) must come from several perspectives sometimes entertained simultaneously.

With this course you will begin to understand the goings-on in tonal works, some ways in which one goes about making simple tonal music, and some ways in which the techniques of tonal music make possible that rich experience which we associate with the tonal repertoire.

Why Study Common-Practice Tonality in the First Place?

The simplest answer...

...to learn one way in which we might organize the materials of music. And although we deal here with the music of dead composers, we treat the music as a living language. Is it alive? Is it a language? Scholars disagree. These issue, although important, are beyond the modest scope of this text. But for us, here, common-practice tonality is alive, vital, and an eloquent musical language.

Is common-practic tonality the only way?

Certainly not. There are many others, before and since, East and West.

Is common-practice tonality the best way?

That would depend on your goal.

So why this way?

. . . because it is a tried and true way, a way that has delivered the musical goods bountifully, for at least three, maybe four, centuries. And what goods they are, whether they come by way of Johann Sebastian Bach or Thelonious Monk! As a means of introducing students to the possibilities of music and the processes of composition, it is unparalled; for common-practice tonality has come as close as any to becoming that "universal language" so often mentioned by Romantic poets and ecstatic musicologists.

For Additional Study

Bamberger, Jeanne Shapiro, and Howard Brofsky. *The Art of Listening: Developing Music Perception.* 5th ed. New York: Harper & Row, 1988. Chapter 1.

Salzer, Felix. *Structural Hearing*. New York: Dover, 1962. Chapter 1.

Schoenberg, Arnold. *Structural Functions of Harmony.* Rev. ed. Leonard Stein, editor. New York: W. W. Norton & Company, Inc. 1969. Chapters I-II.

Westergaard, Peter. *An Introduction to Tonal Theory*. NY: Norton, 1975. Chapter 1.

Williams, Edgar W. *Harmony and Voice Leading.* NY: HarperCollins, 1992. Pp. i-viii.

Top | Bottom | Previous Chapter | Next Chapter

Diatonic Sequences

When we repeat a musical pattern transposed up or down to another scale degree, we create a sequence. Sequences built upon unaltered scale degrees are diatonic sequences. Most often, diatonic sequences serve to delay **V** or prolong **I**.

STRUCTURE AND FUNCTION OF THE SEQUENCE

Sequences serve two functions: They help create tension by delaying the arrival of an important harmony. They allow musical tension to unwind by expanding and prolonging a harmonic goal. A sequence has two parts:

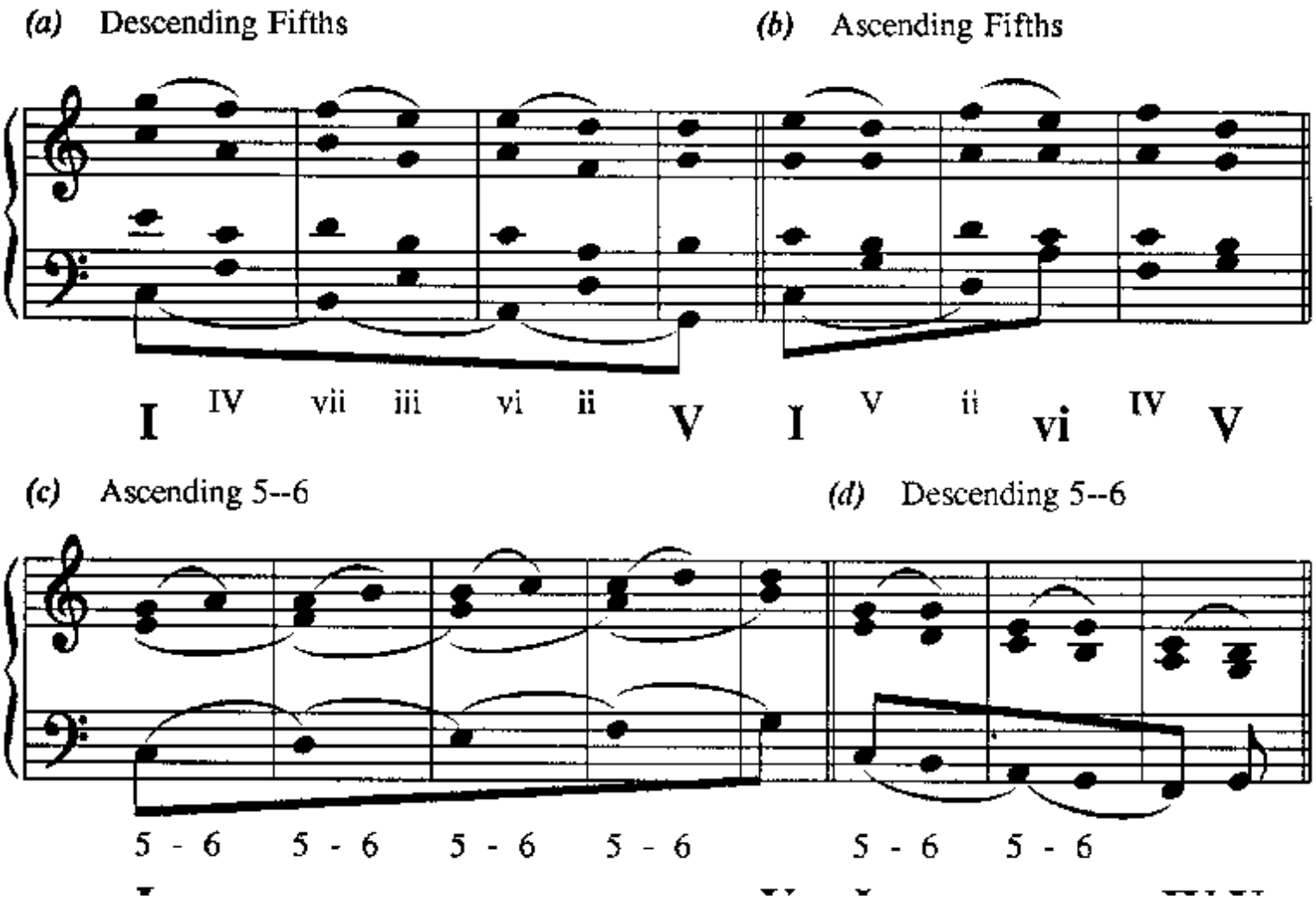
- the *sequential unit* and
- the *sequential progression*.

The Sequential Unit

The musical figure that we repeat is the *sequential unit*. As a rule, sequential units move by step or by third. They can ascend or descend.

The Sequential Progression

Each sequential unit contains a pair of chords called the *sequential progression*. We distinguish among four basic diatonic sequences (see example 16-1).



Ex. 16-1 Basic Diatonic Sequences

Notice that the sequential *units* of examples 16-1a, 16-1b, and 16-1c move up or down by step. (In the examples, the sequential units are separated by bar lines.) That is, each measure of these three examples is transposed down (or up) by step in each of the following measures. The sequential *progressions*, however, move by fifths (examples 16-1a and 16-1b) or by a combination of thirds and fifths (example 16-1c). That is, the root progression of the succeeding chords is by fifth or thirds and fifths.

In contrast, the sequential unit of example 16-1d moves down by thirds. The sequential progression, however, moves by a combination of fifths and seconds.

As a rule, *descending sequences are more goal-oriented than ascending sequences*. Hence, most sequences descend. As a rule, *sequential motion by descending step creates the strongest voice leading*. Hence, most sequences descend by step.

TYPES OF DIATONIC SEQUENCES

Sequences that progress between scale degree triads are *diatonic sequences*. A diatonic sequence gets its name from its sequential progression. Example 16-1a is a *descending-fifth sequence* since the root progression between chords is by descending fifth. Remember, though, the sequential unit of this descending-fifth sequence moves by descending *seconds*.

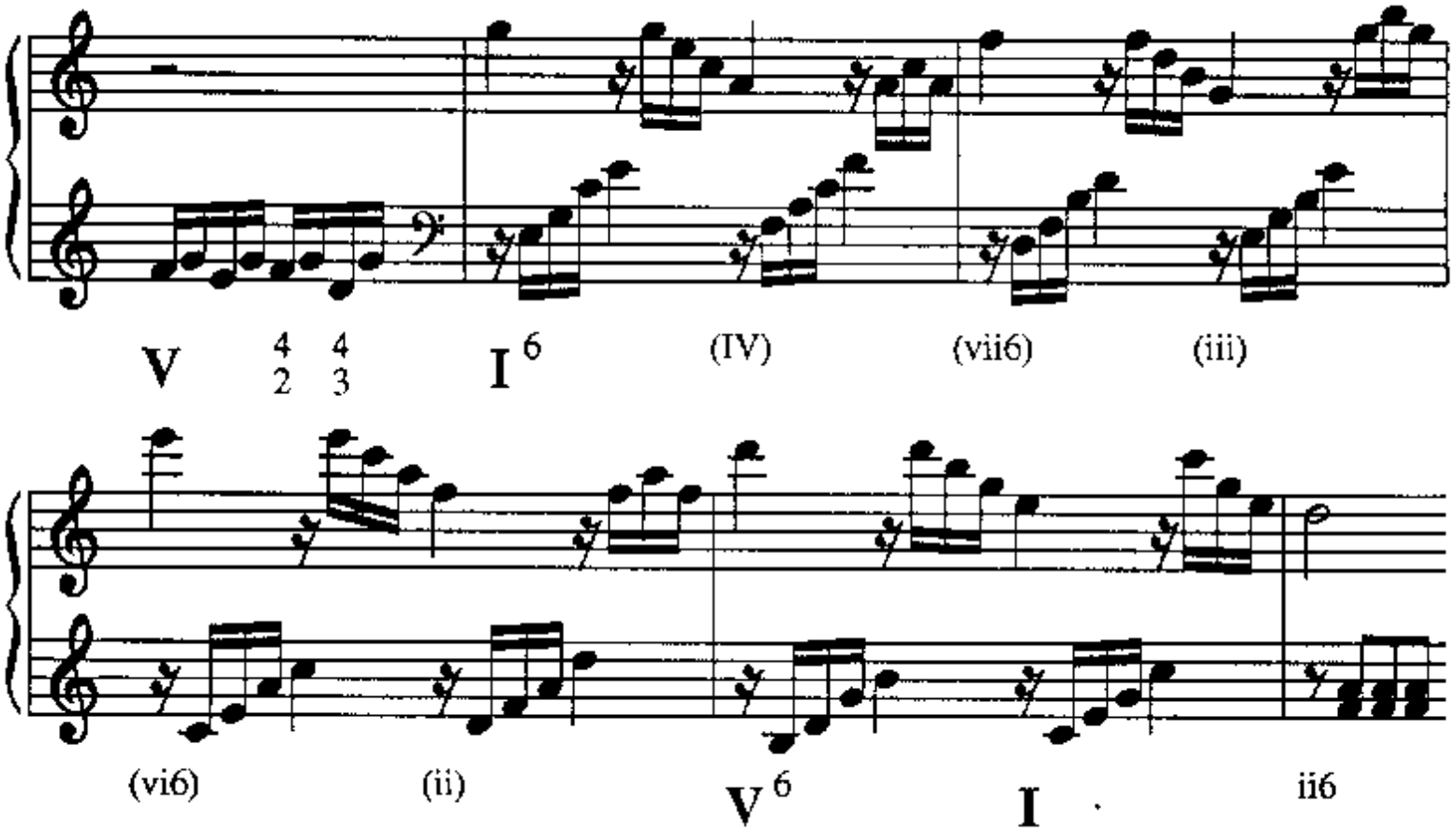
Sequential Motion by Step

DESCENDING FIFTHS

The most common diatonic sequence is by descending fifths. The voice leading of each descending fifth mimics the voice leading of a dominant-tonic progression.

Remember: Only the roots of the sequential progression move by descending fifths.

Ordinarily, the bass does not move *literally* by descending fifths. It might move a fifth down and then a fourth up, still maintaining all chords in root position. Often, one or both of the chords in the sequential progression may appear in inversion.

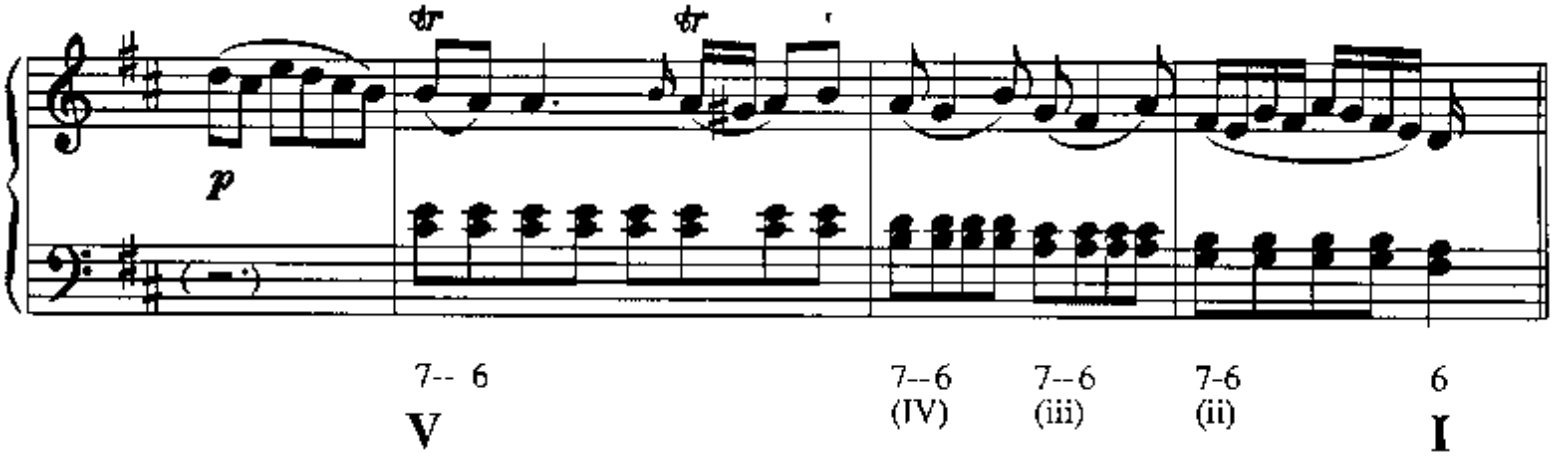


Ex. 16-2 Mozart, Piano Sonata, K. 545, first movement

The sequence in example 16-3 prolongs the tonic by moving from **I** *to* **I** with a cycle of descending fifths. Note that the first chord of each measure is in first inversion, providing a stepwise motion into the root of the second chord of each unit. This adds special emphasis to the root position chord on the third beat of each measure. As a result, the final **I** of the sequence arrives in root position - even though we began the sequence on $\mathbf{I}_6$.

DESCENDING s

A succession of descending s can function sequentially. They form the simplest sort of diatonic sequence. In a descending sequence, both the sequential unit *and* the sequential progression move by step.

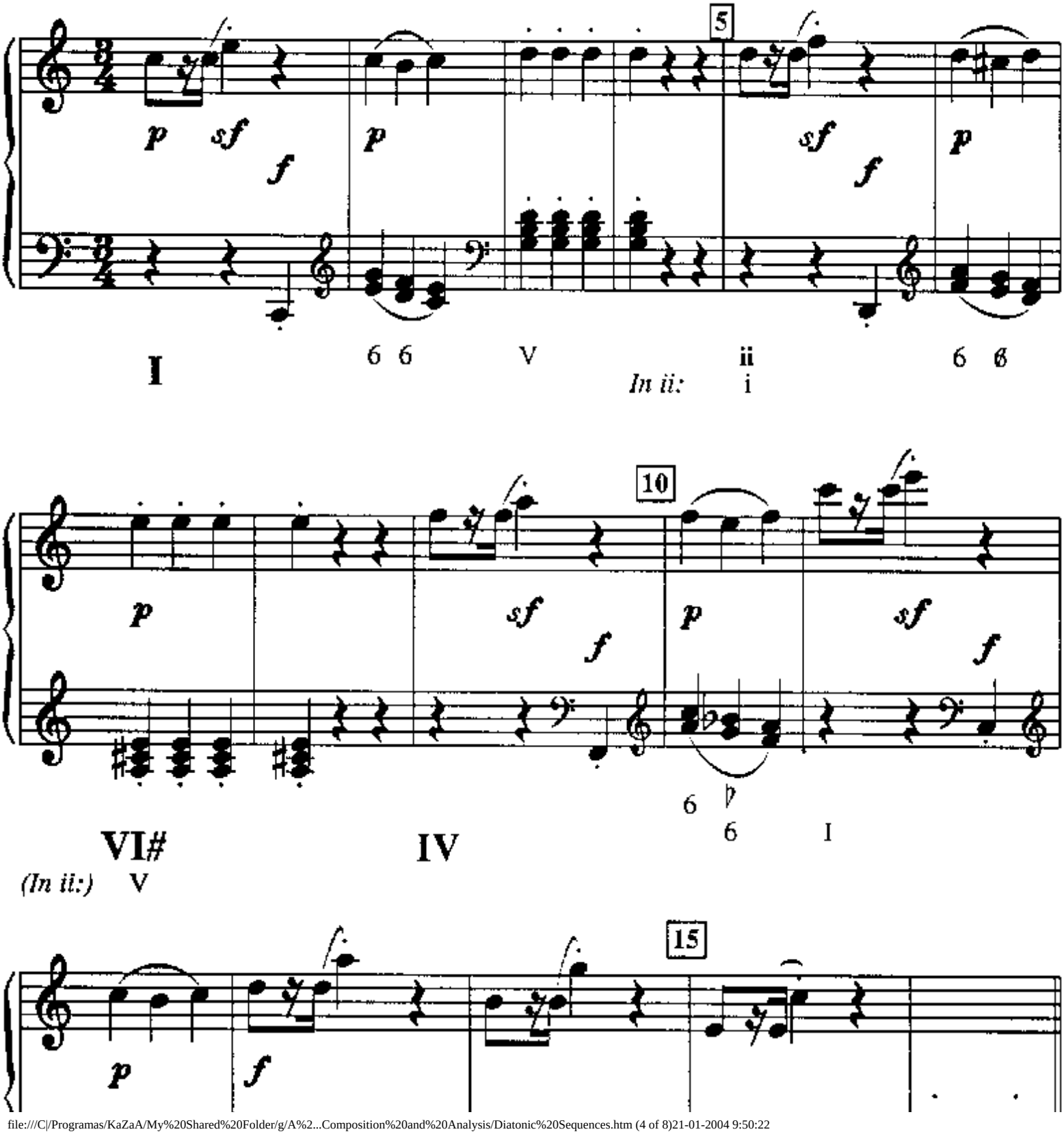


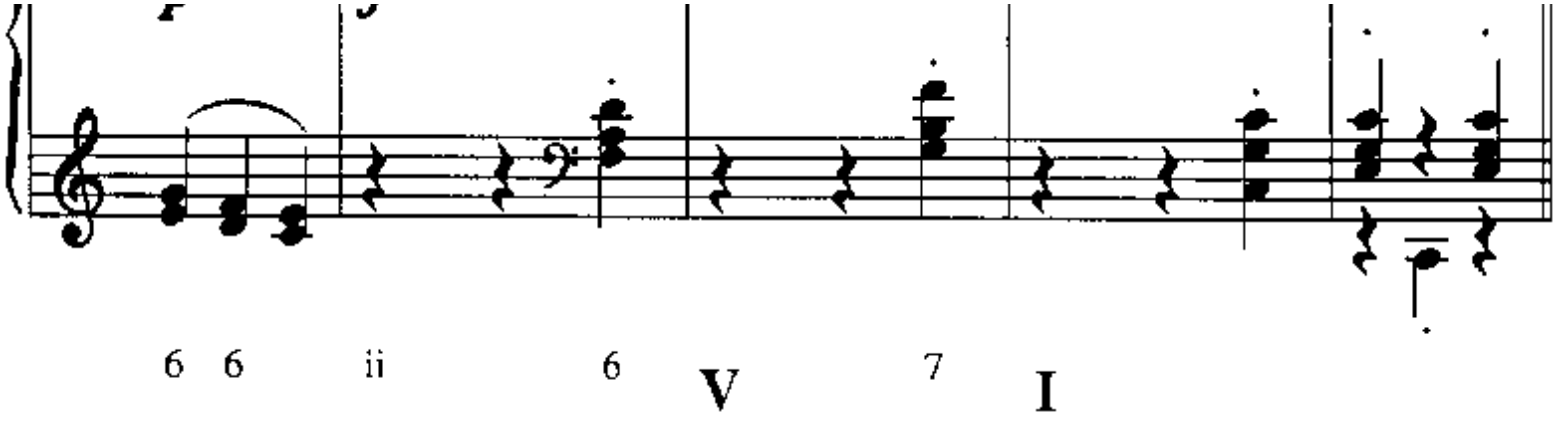
Ex. 16-3 Mozart, Piano Sonata, K. 284, first movement

Here a succession of s prolongs the motion from a contrapuntal dominant ($\mathbf{V}_6$) to $\mathbf{I}_6$. Each measure constitutes a sequential unit. Each constitutes the sequential "progression." The succession of 7-6 *appoggiaturas* descends by step - as does the rest of the sequential unit. Note that all the voices move in parallel.

ASCENDING SEQUENCES

Ascending Fifths. Sequences by ascending fifths are rare by comparison with sequences by descending fifths. They are usually incomplete, following the pattern of example 16-1b. As often as not, they prolong the motion from **I** to the lower-third divider, **vi**.





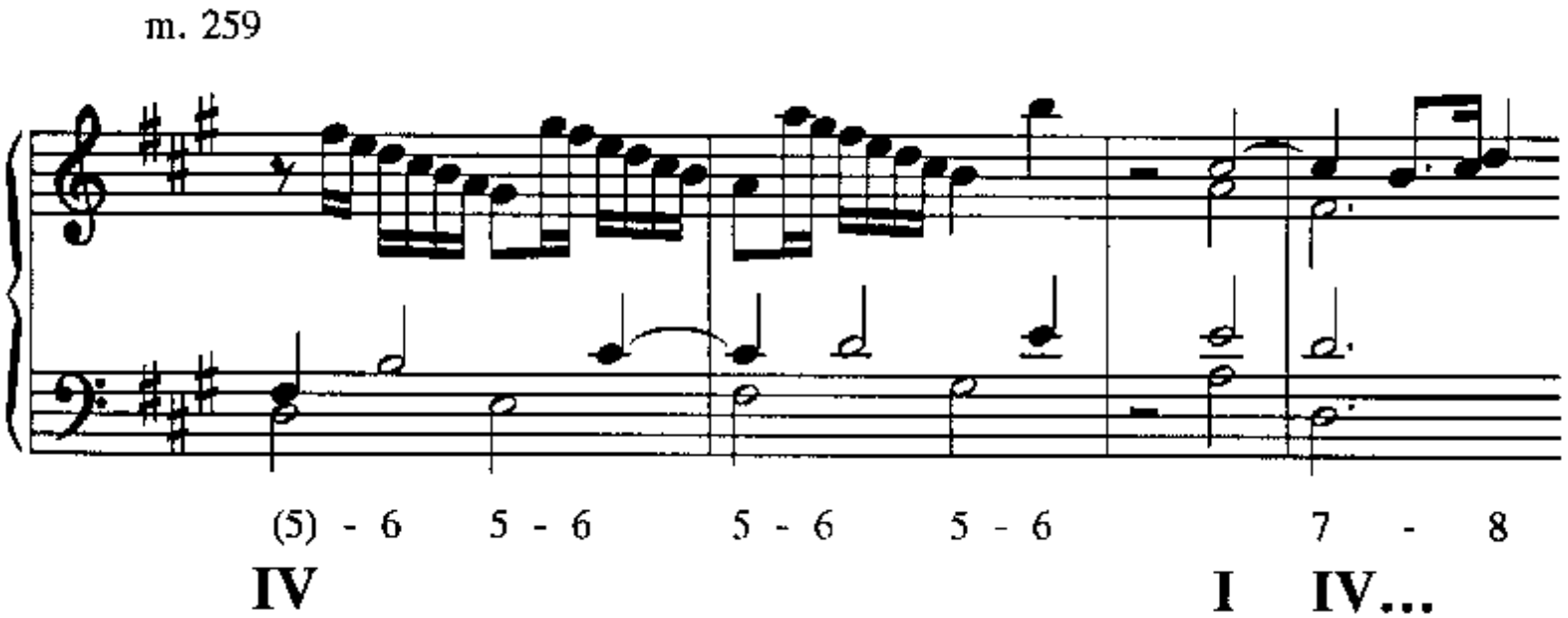
Ex. 16-4 Beethoven, *Seven Bagatelles*, Op. 33, No. 2

In example 16-4, Beethoven prolongs a **I-vi-IV**- motion with an ascending-fifth sequence. He uses the sequence to prolong the motion from **I** to **vi**. He does this by inserting the two (ascending) fifths that stand between **I** and **vi**, making the progression **I-(V-ii-VI$^{\#}$)**.

Why the major triad on **VI**? The first unit moves from **I** to its upper fifth divider, **V** (measures 1-4). The second unit does the same (measures 5-8). If **ii** is the "tonic" of this unit, then **vi** must become a major triad in order to act as "dominant" of **ii**. In effect, then, **VI$^{\#}$** tonicizes the ii that precedes it. The **ii-VI$^{\#}$-IV** progression, then, sounds like a **i-V$^{\#}$-VI** deceptive progression in **ii**, D minor. This is still a diatonic sequence - despite the altered note. Why? Because the root progression is by scale degrees. That is, the *progression* is diatonic.

Notice that example 16-4 has two sequential units, each occupying four measures. The second unit transposes the first *up* by a step. Each unit contains two harmonies (**I-V, ii-VI$^{\#}$**), with the roots of each ascending by fifth to the next.

Ascending 5-6. Ascending 5-6 sequences arise even less often than ascending fifth sequences. When they do arise, they will, as a rule, following the pattern outlined in example 16-1c.



Ex. 16-5 Mozart, Piano Concerto, K. 488, first movement (piano solo)

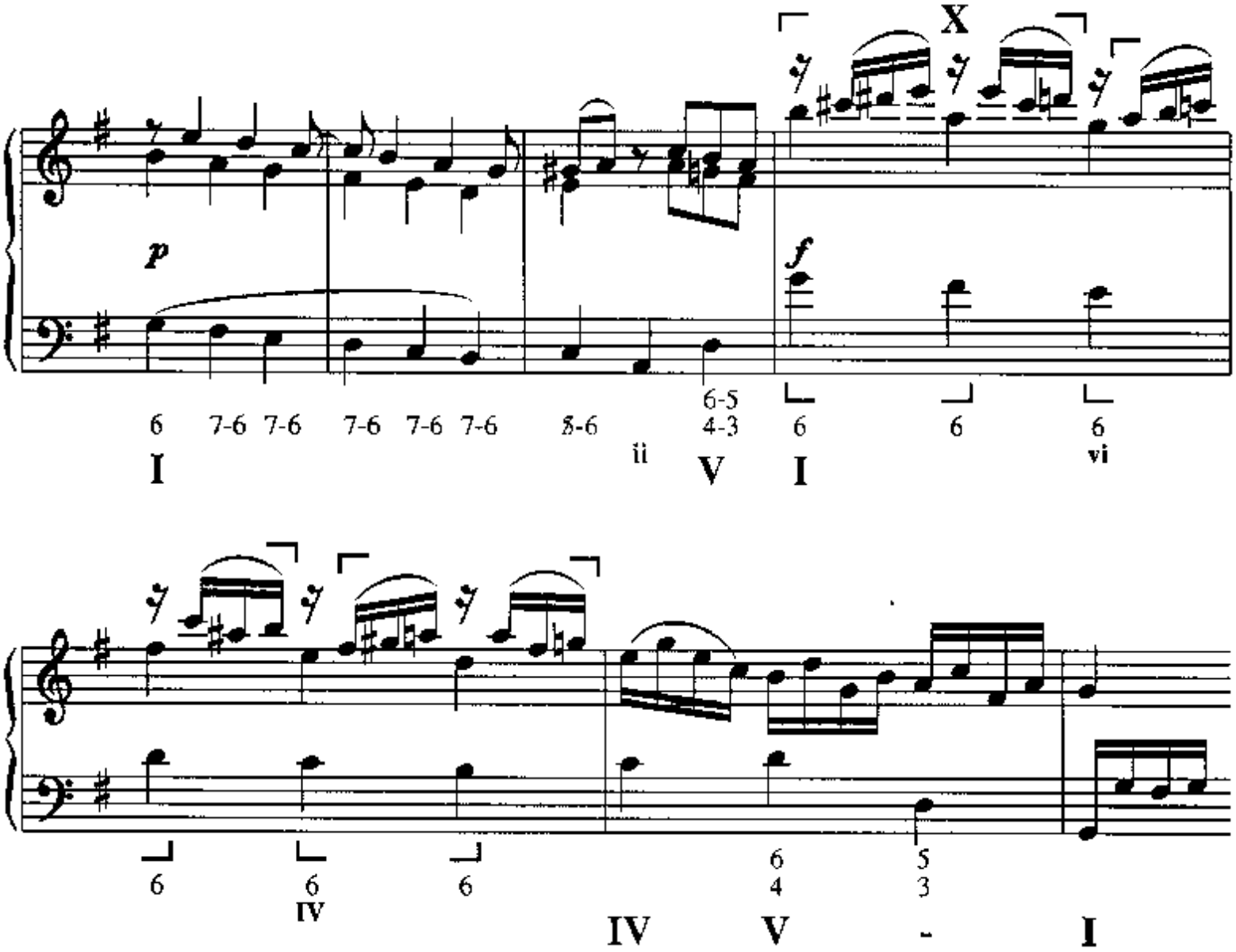
In example 16-5, Mozart expands a prominent **IV** with an ascending 5-6 sequence. He arrives on **IV** in the first measure shown. That **IV** then ascends by sequential 5-6s back to **I**. Once on **I**, it returns to the root position **IV** on which it began and continues where it left off. The sequential unit is a half note long. Each unit ascends by step.

Sequential Motion by Thirds

Sequences by descending thirds move from I through the lower-third divider (**vi** or $\mathbf{IV}_6$) to the lower-fifth divider (**IV** or ii_6). Ordinarily, this motion precedes a move to the dominant.

DESCENDING s

We often see descending s paired to create a sequence of descending thirds.

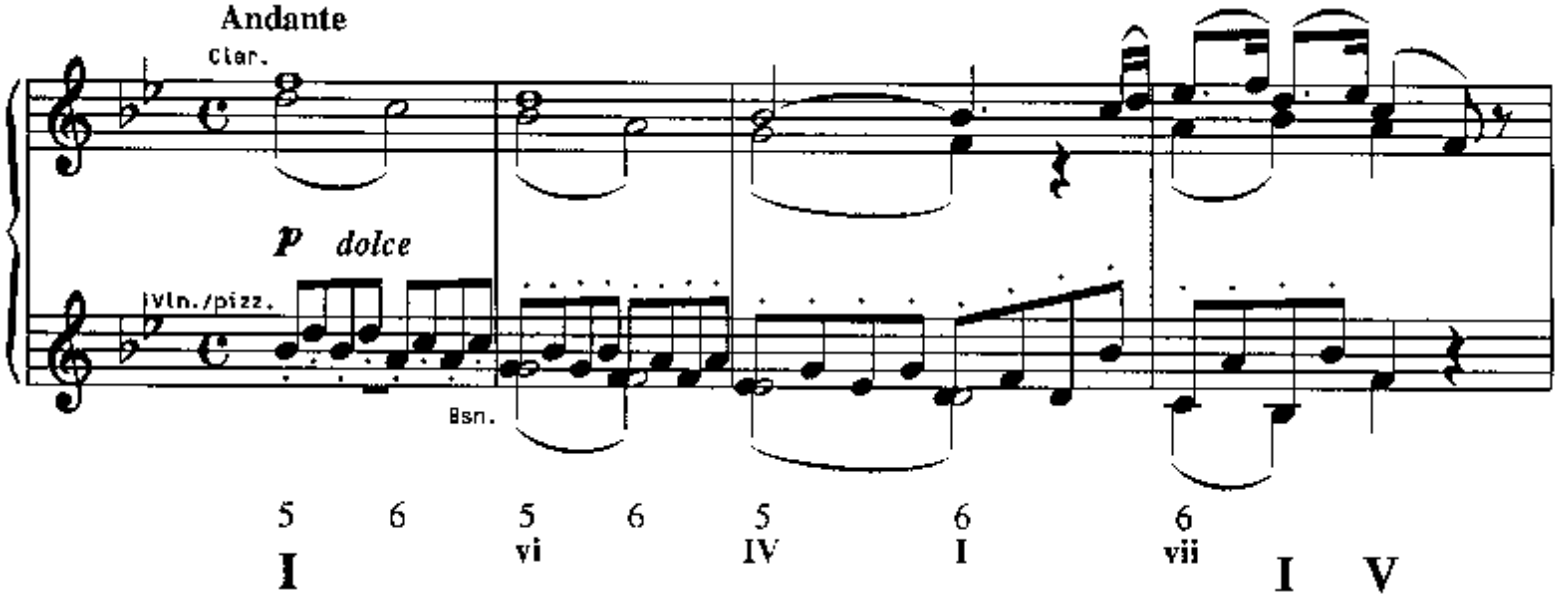


Ex. 16-6 Mozart, Piano Sonata, K. 283, first movement

Example 16-6 begins with a succession of s embellished by 7-6 suspensions (measures 1-2). An embellished version of the same progression follows immediately (measures 4-5). The sequential unit of this second sequence (**X**) descends by thirds to the lower-fifth divider and then to the dominant: **I-vi-IV-V**.

DESCENDING 5-6

The sequential progression of the descending 5-6 ascends by fifth then descends by step. The sequential unit descends by thirds. We find a classic example of this sequence in Mozart's final opera *Die Zauberflüte ("The Magic Flute").*

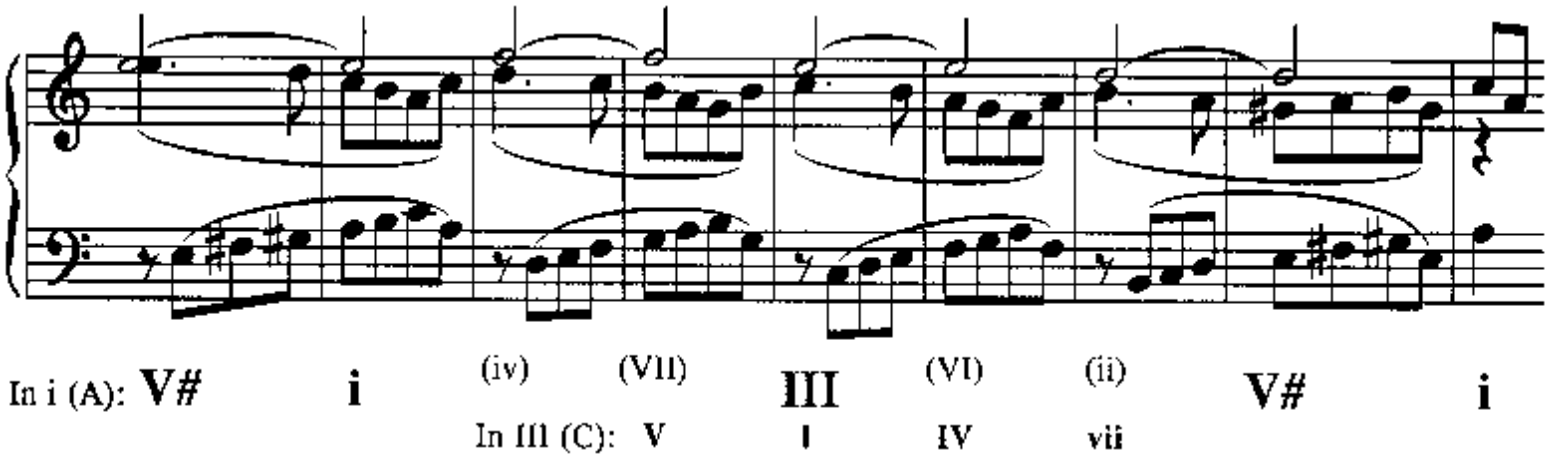


Ex. 16-7 Mozart, *Die Zauberflüte*, Act I, No. 5, *"Drei Knäbchen"*

As the bass moves by step from to an octave lower, s alternate with s to support it. The final **I** moves into a half cadence on **V**.

Sequences in the Minor

Because of the altered pitch classes in the minor, sequences become more complex. Minor sequences can function as they would in the major, making allowances for altered notes.



Ex. 16-8 Mozart, Piano Sonata, K. 310, third movement

This motion from **i** to **i** through a cycle of descending fifths is almost identical to example 16-3, above. Notice that Mozart alters scale degrees only when necessary. That is, he avoids alterations except at the beginning and the end as **V** approaches **i**. As a result, **III** is momentarily tonicized.

Composers often focus a minor sequence on the relative major, **III**. For example, descending- and ascending-fifth sequences often outline the upper-third divider (**III**) in a move to **V**. When they do, they frequently follow the pattern shown in example 16-9. Ex. 16-9 Sequences by Fifth in the minor

Notice that in ascending-fifth sequences in the minor, the sequence *begins* on the third divider (see example 16-9a). The descending-fifth sequence in the minor, however, *ends* the sequence on the third divider (see example 16-9b). In both cases, **III** is momentarily tonicized.

Summary

- Diatonic sequences move by seconds or thirds. The most common motion is downward by second.
- Descending-fifth sequences are the strongest and most common. They expand **I** to **V**. Descending 5-6 sequences, though less common, serve a similar function.
- Ascending-fifth and 5-6 sequences are rare. Ascending-fifth sequences often serve to expand the lower-third divider on its way to **IV**.
- In the minor, sequences often center around the relative major (**III**) in its role as upper-third divider between **i** and **V**.

For Additional Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading*. 2d ed. 2 vols. New York: Harcourt Brace Jovanovich, 1989. Chapter 17.
- Benjamin, Thomas, Michael Horvit, and Robert Nelson. *Techniques and Materials of Tonal Music*. Belmont, CA: Wadsworth, 1992. Part II, Section 16.
- Ottman, Robert W. *Elementary Harmony*. 4th ed. Englewood Cliffs, NJ: Prentice-Hall, 1989. Chapter 16.
- Piston, Walter. *Harmony*. 5th ed. Revised and expanded by Mark DeVoto. New York: Norton, 1987. Chapter 19.

top | bottom | next chapter | previous chapter

Modal Mixture

Tonality recognizes two modes: major and minor. To make the minor mode work tonally, however, we must borrow scale degrees from the parallel major. We do so to create stronger and more coherent voice leading from to and, when necessary, from to . However, certain elements of the minor mode provide even better voice leading than the major. Composers frequently borrow these elements from the minor mode to enhance voice leading in the major. We call this technique modal mixture. *(Some theorists refer to the technique as* borrowing - *as in "borrowing from the minor.")*

When borrowing scale degrees from the parallel major or minor, we must be careful to spell the altered scale degree properly. In addition, we must treat any cross relations that result from modal mixture with care.

MODAL MIXTURE IN THE MAJOR

Composers frequently borrow two scale degrees from the parallel minor. These borrowings enhance voice leading by providing half step (rather than whole step) upper neighboring notes to and .

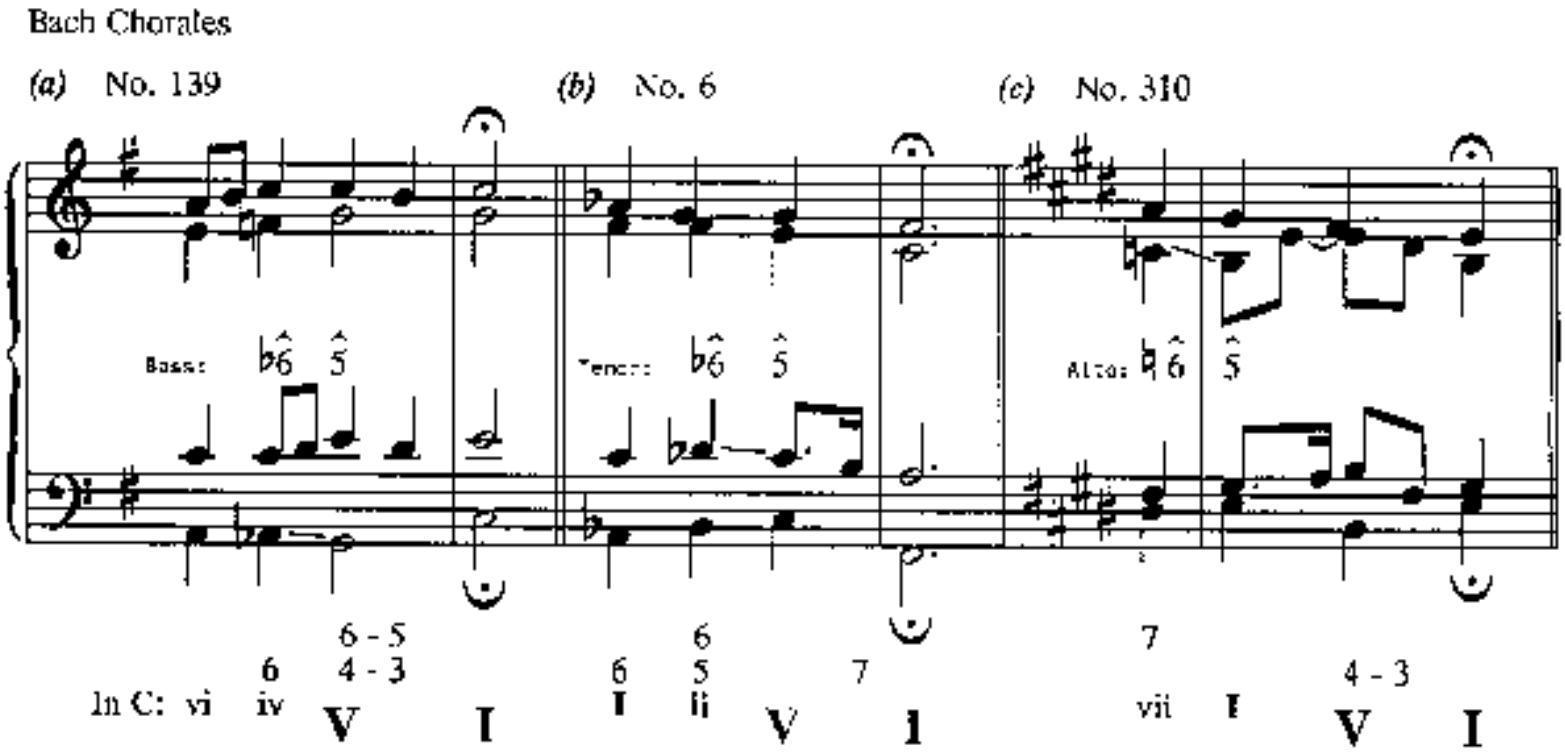
Lowered

In the minor, stands a half step above . It provides a much stronger neighbor to than does major . Composers frequently borrow this lowered from the minor for use in compositions otherwise in the major mode.

MINOR iv

In example 17.1a, Bach enhances the bass motion – by inserting the lowered (borrowed from the parallel minor) between diatonic and . The iv6 supported by this lowered is now a minor triad. Notice two things about example 17.1a. First, Bach spells the borrowed *as* a - that is, as a kind of A, the sixth scale degree of C. (Since A-flat and G-sharp are enharmonically equivalent, G-sharp would have provided the same pitch. However, G-sharp is the *wrong scale degree.* It is not the sixth scale degree of C but the fifth. Only some kind of A may function as in C.) Second, notice how Bach treats the cross relation between diatonic and lowered .

Remember: We should keep a cross relation in the same voice whenever possible. If we cannot keep it in the same voice, we should pass it from an inner voice to an outer voice. Avoid passing the cross relation between outer voices or from an outer voice to an inner voice.



Ex. 17.1 Borrowed in the Major

DIMINISHED ii

In example 17.1b, Bach intensifies the - - neighbor motion in the tenor by introducing a borrowed (or lowered) . The ii that supports this borrowed becomes a diminished triad as a result. (Notice that Bach avoids *all* cross relation in this example. There is no diatonic next to the borrowed in any voice. Also notice that he spells the borrowed degree as D-flat, *not C-sharp*. The sixth scale degree in F must be some sort of D.)

FULLY DIMINISHED vii^7

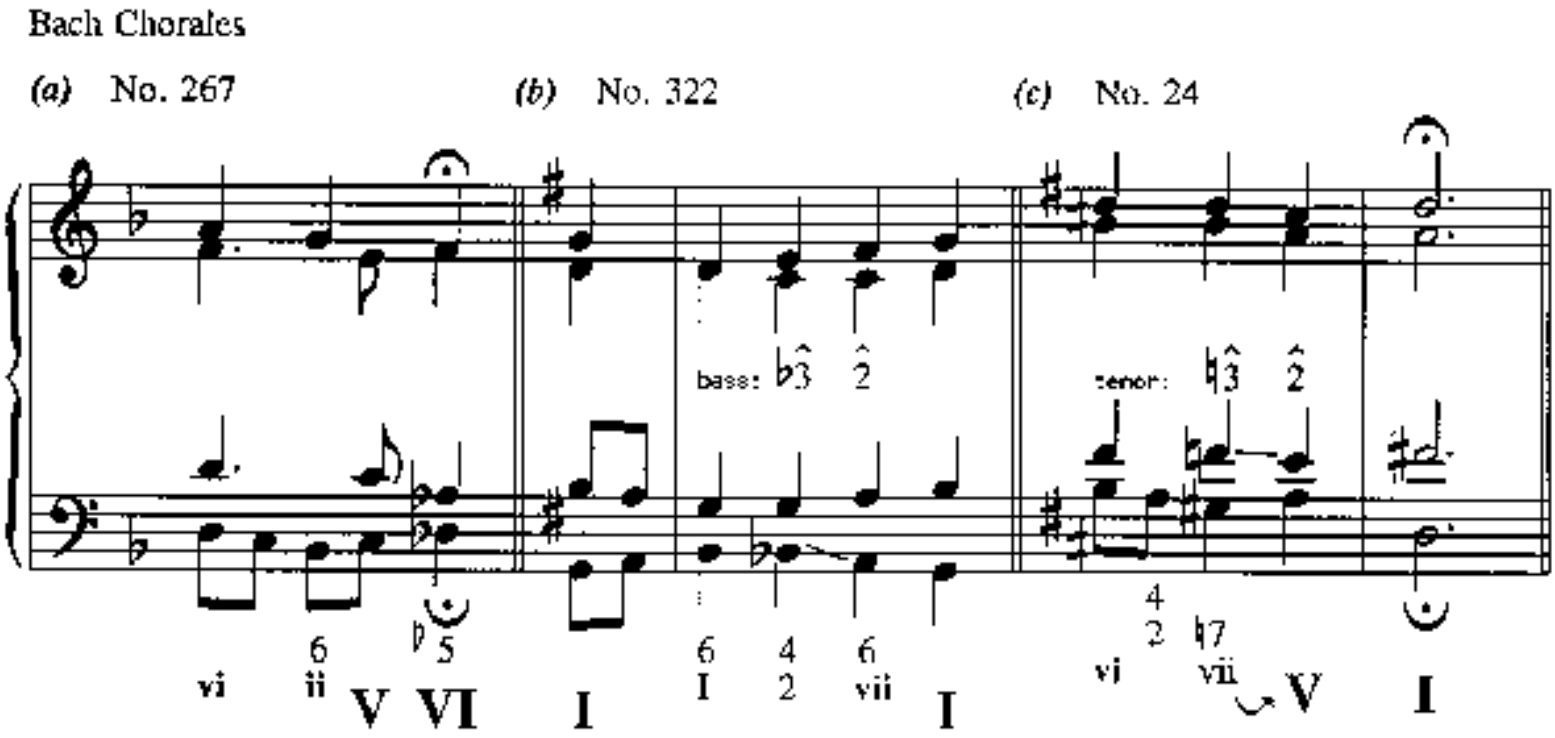
In example 17.1c, borrowed once again intensifies the voice leading to . Bach supports this with a tonic harmony, however. As a result, he supports the borrowed neighbor ( ) with a voice leading harmony to I. This makes borrowed the diminished seventh of a fully diminished vii^7.

MAJOR VI

We might think of the iv$_6$ of example 17.1a, the ii of example 17.1b, and the vii^7 of example 17.1c as "borrowed" harmonies. Each duplicates the equivalent scale degree harmony of the parallel minor. Another such borrowed harmony functions prominently in tonal music. This is the borrowed VI.

In the minor, [ ] not only stands in a stronger voice leading relation to [ ] but also supports a stronger harmony. VI in the minor is a major triad. This makes of the deceptive cadence in the minor a dramatic deception indeed. Not only is the final VI major, but it stands just a half step above the major V that precedes it. (See chapter nine for a further discussion of VI in the minor mode.)

Composers often borrow this sixth scale degree from the minor to create an especially dramatic deceptive cadence in the major.



Ex. 17.2 Borrowed [ ] and [ ]

In example 17.2a, a routine authentic cadence comes to a dramatic deceptive cadence above borrowed - that is, lowered - [ ]. Notice that we must borrow [ ] (*tenor:* A-flat) from the parallel minor as well to create the proper perfect fifth above lowered [ ].

Lowered [ ]

In the minor, [ ] stands a half step above [ ]. It provides a stronger neighbor to [ ] than major [ ]. Occasionally, composers borrow lowered [ ] from the minor to enhance the voice leading to [ ].

"IV7"

In example 17.2b, a borrowed [ ] (B-flat) intensifies the bass [ ]-[ ] motion. There results a [ ] above that borrowed [ ]. This

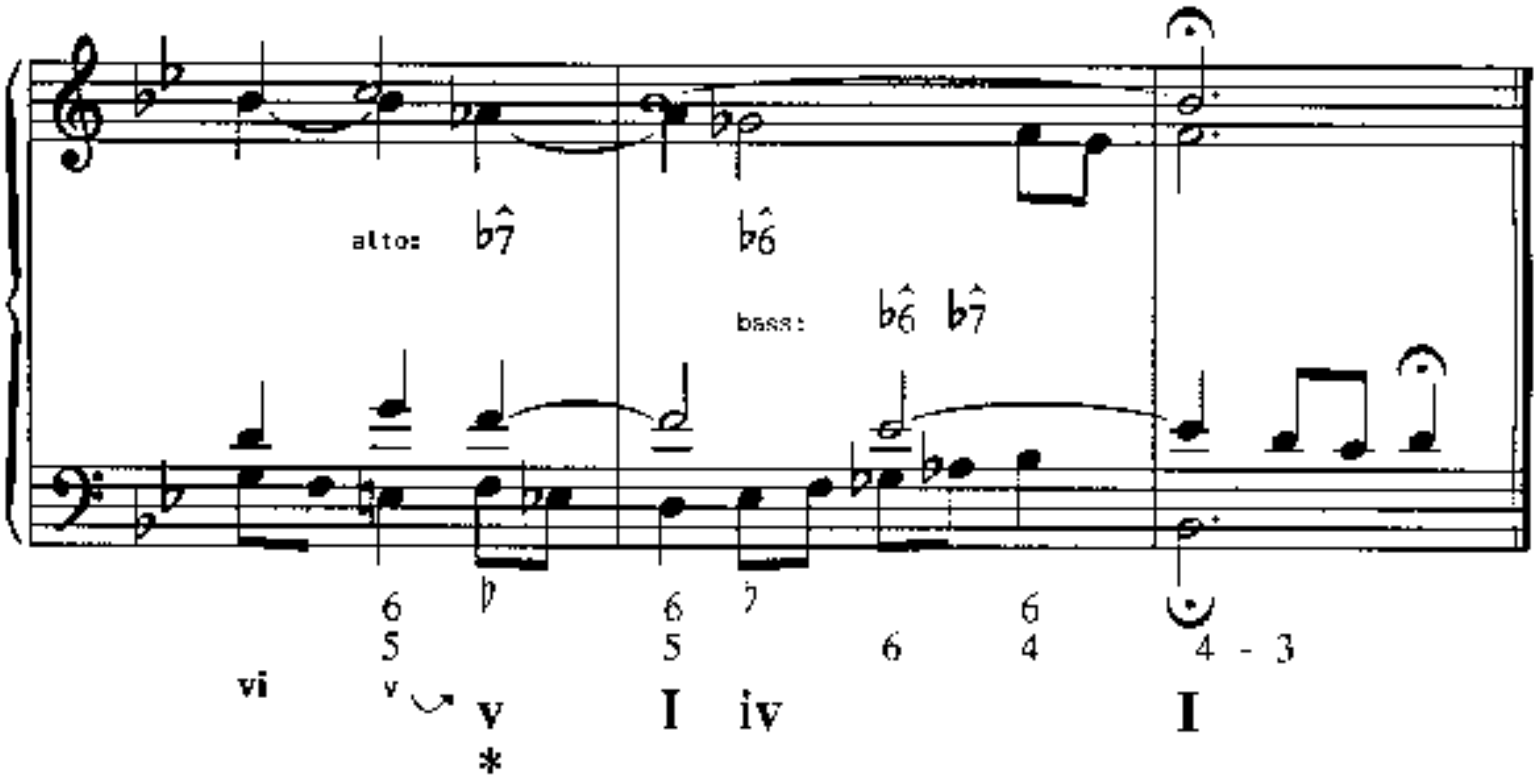
might be an applied V of vii. It is not, however, for it fails to tonicize the vii6 that follows. (As a diminished triad, vii6 cannot be heard as "tonic.") Rather, it arises from borrowing and serves only to intensify a bass - - progression. (Notice that, once again, Bach keeps the cross relation in the same voice.)

DIMINISHED vii^7 OF V

Borrowed often does serve to intensify a tonicization of V, however. In example 17.1c, Bach uses borrowed as the seventh of a vii^7 of V. This creates a fully diminished seventh above this applied vii. (Notice that Bach keeps the cross relation in the same voice. Note as well that he spells borrowed as a third scale degree - that is, as a kind of F.)

The Subtonic in the Major

Remember that, in the minor, we keep the lowered form of (the subtonic) when it descends. We create a leading tone (raised) only when ascending to . We may borrow this subtonic scale degree from the parallel minor to intensify a motion *down* from . This often results in a minor triad above .



Ex. 17.3 Bach. *Chorale 279.*

This chorale ends with a grand plagal cadence below a tonic pedal (soprano: B-flat). Note the V (marked with an asterisk) that precedes I. A borrowed (alto: A-flat) replaces the expected leading tone. Why? Because that does not function as

a leading tone but as upper neighbor to . Now, the plagal iv that follows uses borrowed (G-flat) as an intensified upper neighbor to . When returns as a passing note to (bass, measure two), Bach *still* uses the borrowed form - presumably to avoid the augmented second that would otherwise result.

This cadence is tonally ambiguous. Is it a plagal cadence borrowed from B-flat minor? Or is it a half cadence (i-V#) in E-flat minor? Perhaps the text will help.

The cadence arises above the word *büssen* (German, atone or remedy). Allow us to atone for the suffering and pain brought on the world by our sins, pleads the sinner. Is the hard-won tonic B-flat of the last measure an "atonement" for all the "sufferings" (borrowed from the parallel minor) in the earlier bars? Or does the tonal ambiguity point out the impossibility of such an atonement? (Perhaps a study of the rest of *Cantata 48* from which we draw this chorale setting would help us decide, but such is beyond the scope of this text.)

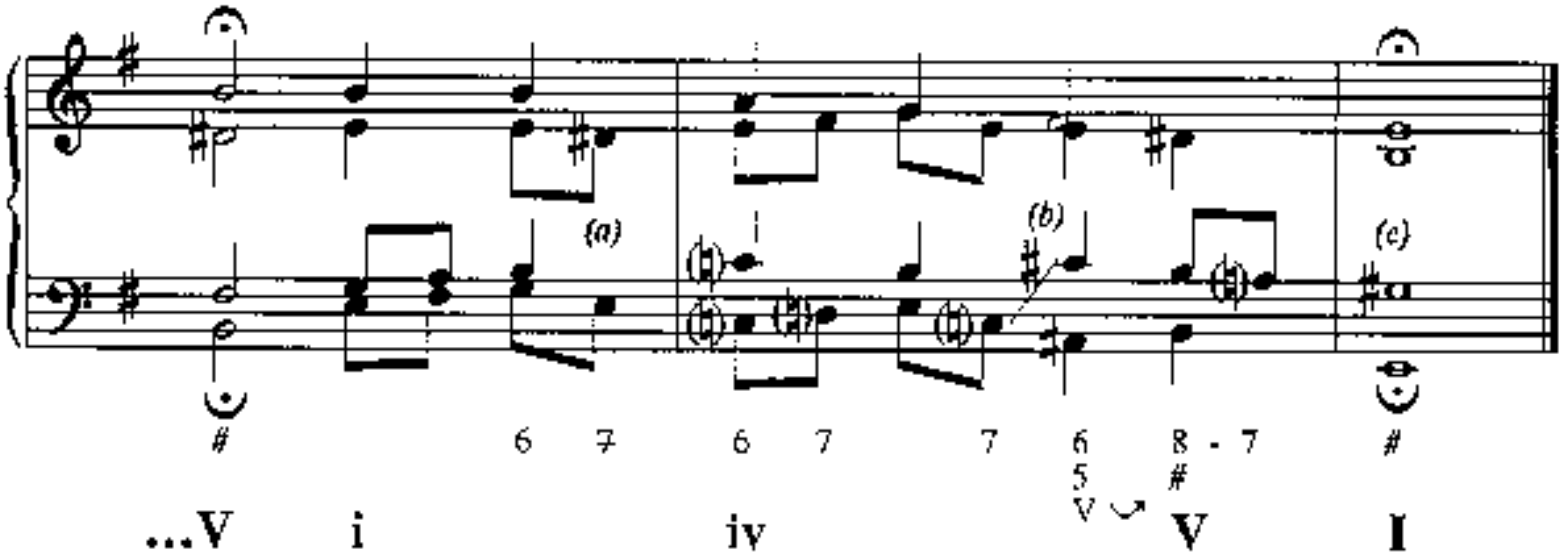
MODAL MIXTURE IN THE MINOR

Raised and

Both altered and are, in effect, borrowings from the major. These borrowings make the minor mode possible. (See chapter nine to review the use of altered and in the minor.)

Raised *("Picardy Third")*

In fact, these borrowings from the major are so common in minor works, that minor compositions frequently end on a *major* tonic. Composers achieve this by using a borrowed from the parallel major. Traditionally, musicians call a borrowed in the final tonic of a minor composition a *picardy third.* (The origin of this name is obscure.)



Ex. 17.4 Bach. *Chorale 324.*

Example 17.4 is the final phrase of *Chorale 324.* The phrase combines sixth and seventh scale degrees drawn from both parallel major and minor - as well as a startling borrowed in the last harmony. Although such borrowings usually enhance good voice leading, the voice leading here is awkward. The bass arpeggiation to ((*a)* in example 17.4, above) clashes dramatically with the raised neighbor in the alto. (Both and its lower neighbor sound simultaneously!) At *(b),* the raised needed for the applied V of V creates a jarring cross relation with the preceding bass diatonic . (Note that the cross relation moves the "wrong" way - from an outer voice *to* an inner voice, from a strong voice to a weak one!) What is going on here?

We must look to the text. In this last phrase, the sinner pleads, "Jesus protect me [from the storm and stress of life]." The picardy third at *(c)* arises above the word *decken* (German, protect, guard). Is this borrowed intended to make up for - redeem, perhaps - the "storm and stress" of this awkward voice leading? Although the music itself raises it, the question can never really be answered.

Summary

To intensify voice leading, composers often substitute scale degrees from the parallel mode. We call the result modal mixture. *The scale degrees must often borrowed - in major* and *minor - are* , , *and* .

In the major, a borrowed from the parallel minor functions as an intensified upper neighbor to . We often see it supported by a minor iv or diminished ii as voice leading harmonies to V. Less frequently, borrowed serves as the seventh above a vii7 voice leading motion to I.

In the major, borrowed serves as an intensified upper neighbor to - often as seventh above an applied vii of V. It serves as well as the fifth of a sixth scale degree triad borrowed from the minor. Built upon borrowed , borrowed VI functions most often in a deceptive cadence.

Composers occasionally borrow the subtonic from the parallel minor. This lowered intensifies the voice leading to . Sometime this results in a minor triad above . We should not confuse this minor v with the major V that serves as upper fifth divider. Minor v serves merely to enhance local voice leading.

In the minor, composers regularly use borrowed and from the major. The tendency of the minor to move to the major finds expression in the so-called picardy third as well. A borrowed from the parallel major provides a major I at the final cadence of a composition otherwise in the minor mode.

Modal mixture often creates ambiguous progressions and chromatic voice leading. Frequently, composers use the drama inherent in this technique to illustrate texts.

For Further Study

- Aldwell, Edward, and Carl Schachter. *Harmony and Voice Leading.* 2 vols. 2d ed. New York: Harcourt Brace Jovanovich, Inc. 1989. Chapter 22.
- Koska, Stefan, and Dorothy Payne. *Tonal Harmony.* 2d ed. New York: Alfred A. Knopf. 1989. Chapter 21.
- Schoenberg, Arnold. *Structural Functions of Harmony.* Rev. ed. Leonard Stein, editor. New York: W. W. Norton & Company, Inc. 1969. Chapter VII.

top | bottom | next chapter | previous chapter

Procedures for Writing Species Counterpoint

Purpose of First Species Counterpoint

First species counterpoint requires us to use the rhythmic ratio 1:1, requires each simultaneity to be consonant, and requires a predominance of oblique and contrary motion between parts. By adhering to these constraints we will learn to control the consonance and dissonance of two coincident independent melodic lines without the added complexity of the rhythmic placement of dissonance. Second through fifth species counterpoint gradually introduce rhythmic complexities and teaches us the control of dissonance in a metric context.

Writing first species (1:1)

A. **Write a line**. Use the process explained in the handout *Procedures for Writing Simple, Metric, Tonal Melodic Lines*

B. **Write the counterpoint - 1st species rules in a nutshell:**

1. IMPERFECT CONSONANCES in contrary or oblique motion should prevail
   - Maximum of 3 consecutive leaps in the contrapuntal voice.
   - Maximum of 2 instances of similar or parallel 3rds or 6ths in succession
2. PERFECT CONSONANCES--should not occur regularly in your work approaching and leaving
   - Use them as the first or last intervals in the exercise or only occasionally on weak stresses.
   - You may use *upper and lower 5th dividers*
   - Approach and leave perfect consonances in contrary or oblique motion, **never similar motion** (Be careful of this when using the upper 5th divider to support .)
   - The P4th is considered a dissonance in 2-voice 1st species counterpoint. (It's not in the harmonic series, and no additional chord members exist to clarify the effect.)
3. NO PARALLEL 5ths, 4ths, Octs. or Unis. (They destroy linear independence and do not imply chord quality)
4. AUG. 4TH or DIM. 5TH [intervals between the 4th and 7th scale degrees in major and 6 and 2 in minor] This interval is usually forbidden in 1st species; however I will permit it if you use the following voice-leading:
   - **Aug. 4th:** Upper pitch resolves up half-step (In major: leading-tone [7] resolves up to Tonic [1], In minor: [2] resolves up to [3]) and lower pitch resolves down by half-step (In major: [4] resolves down to [3], In minor [6] resolves down to [5])
   - **Dim. 5th:** Upper pitch resolves down (In major: 4 resolves down to 3, In minor [6] resolves down to [5]) and lower pitch resolves up by half-step (In major: leading-tone [7] resolves up to Tonic [1], In minor: [2] resolves up to [3])
   - **in other words:** +4ths expand by step / o5ths contract by step

Converting 1:1 to 2:1

A. Introduce embellishments on weak stresses between pitches of either part of the 1:1

1. Fill melodic 3rds with P.T.s or arpeggiation
2. Embellish repeated tones with N.T.s or arpeggiation
3. Embellish melodic steps with dissonant appoggiaturas or consonant arpeggiation
4. Simultaneous embellishments in both lines must produce consonant intervals (3rds, 6ths, rarely perfects)
5. Arpeggiations may be followed with accented embellishments on following strong stress or beat subdivision.

B. Check for the following errors

1. Unresolved dissonances or leading-tones (never leap from dissonances or leading tones)
2. Excessive arpeggiation (more than 3 successive instances) or Successive leaps not constituting a triad
3. "Direct" parallel perfect consonances or "hidden" parallel (similar motion) perfect consonances
4. "Implied" Parallel perfect intervals between consecutive downbeats as a result of either poorly written 1:1, or as a result of a poor choice of accented embellishment.
5. Repeated tones used as 2:1 rather than embellishments
6. Non-diatonic decorative chromaticism that does not imply a "tonicization" at the 1:1 level.
7. Part crossing
8. MINOR: Melodic +2nd between unaltered 6 and raised 7 (Accidentals must agree w/ respect to direction of resolution.)


=staccato; short


=short, hard accent

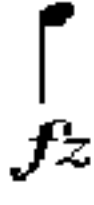

=staccatissimo; very short


=tenuto; broad, full value

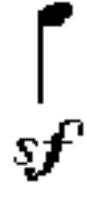

= accent; sharp attack, louder than current dynamic


=marcato; slightly accented and sustained

or

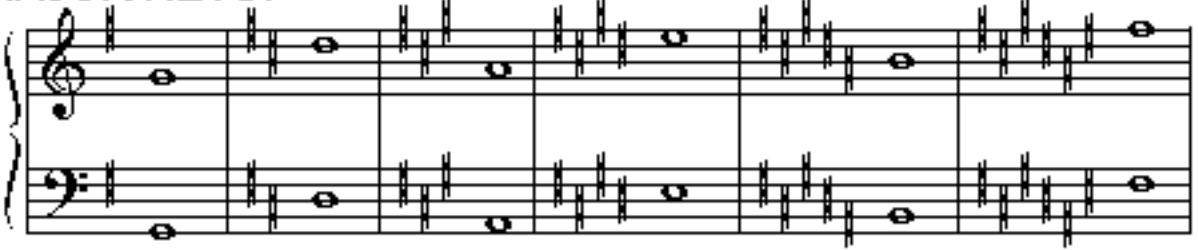


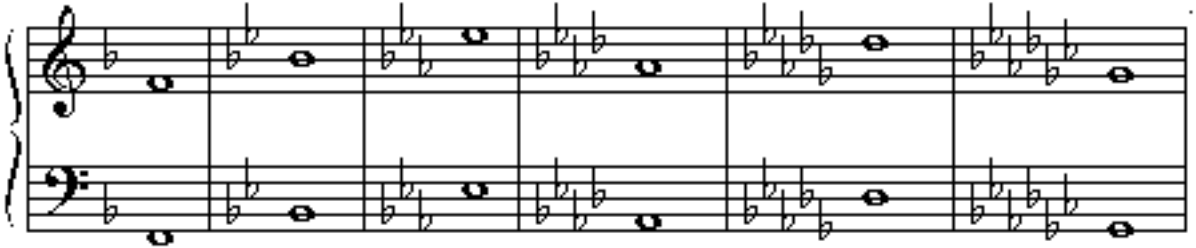
or



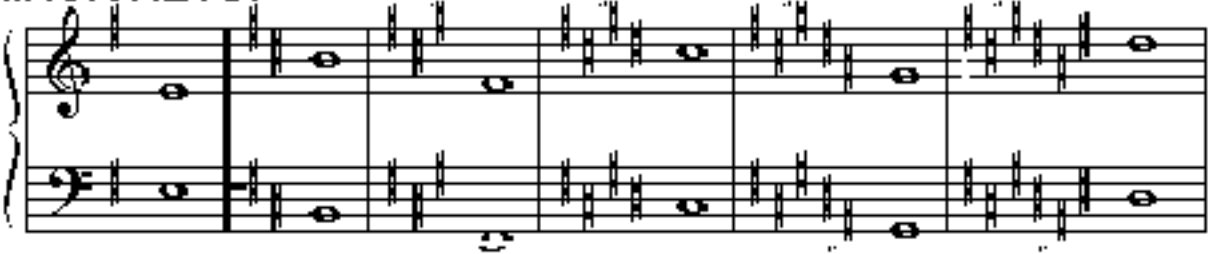
=sforzando, sforzato (lit. forced); sudden, strong accent

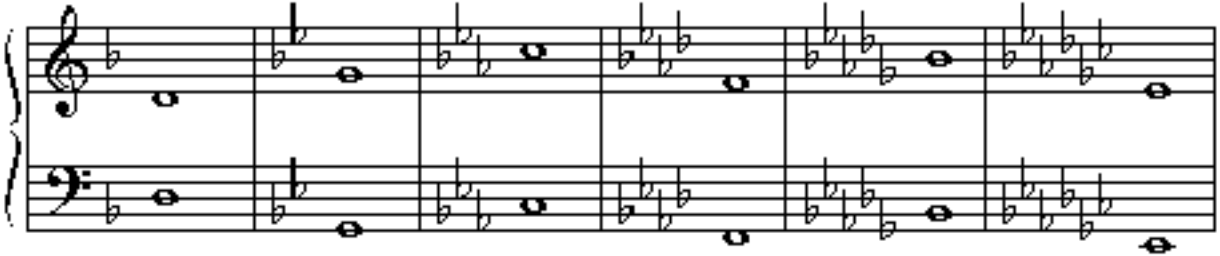
MAJOR KEYS:

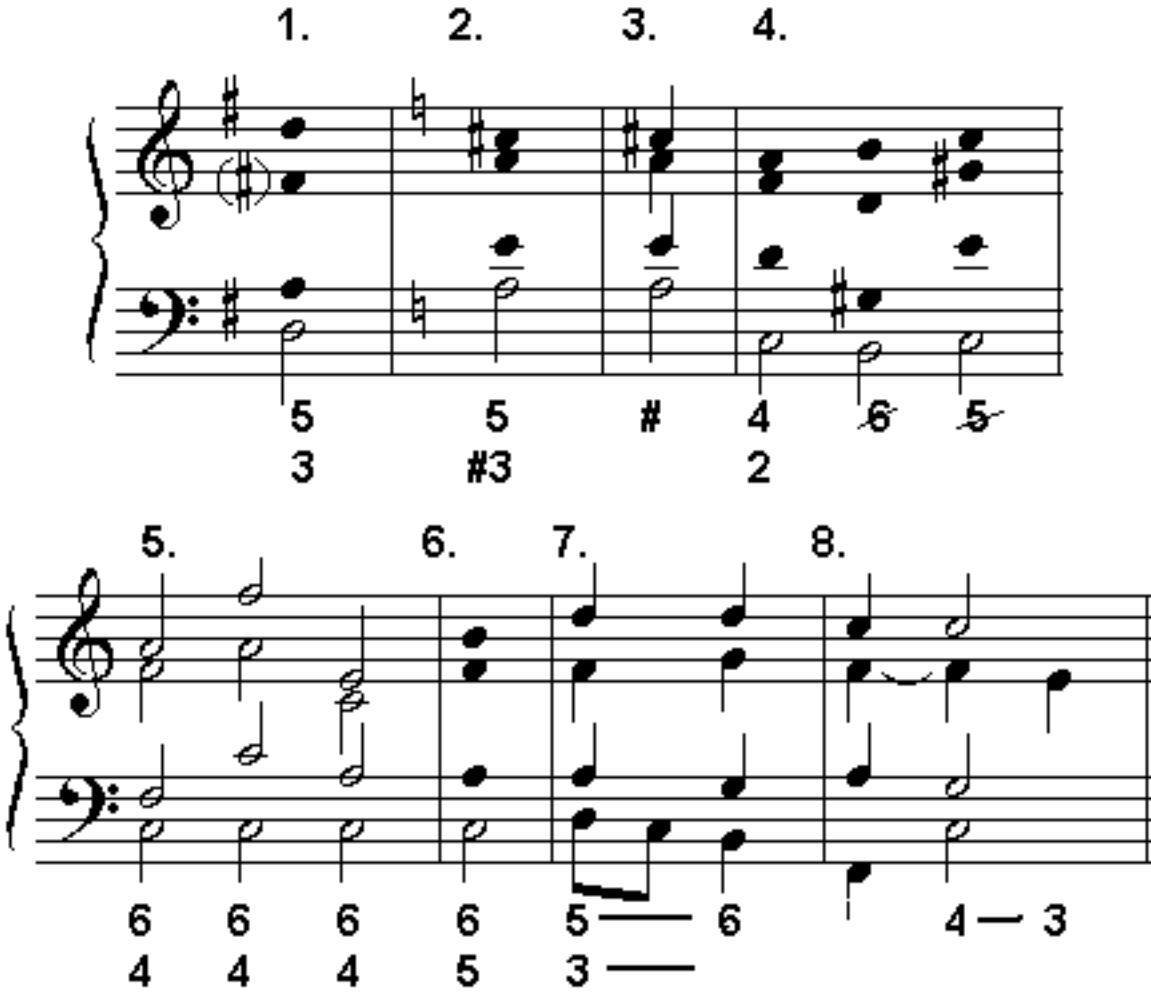


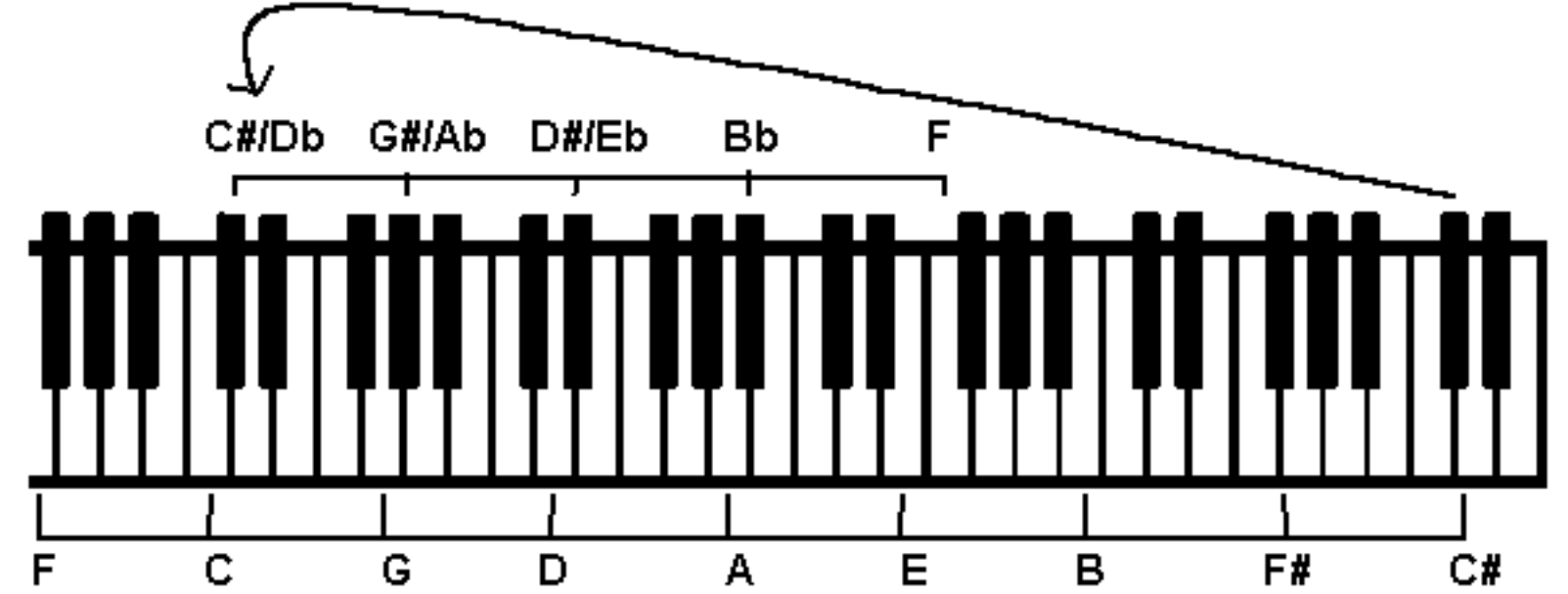


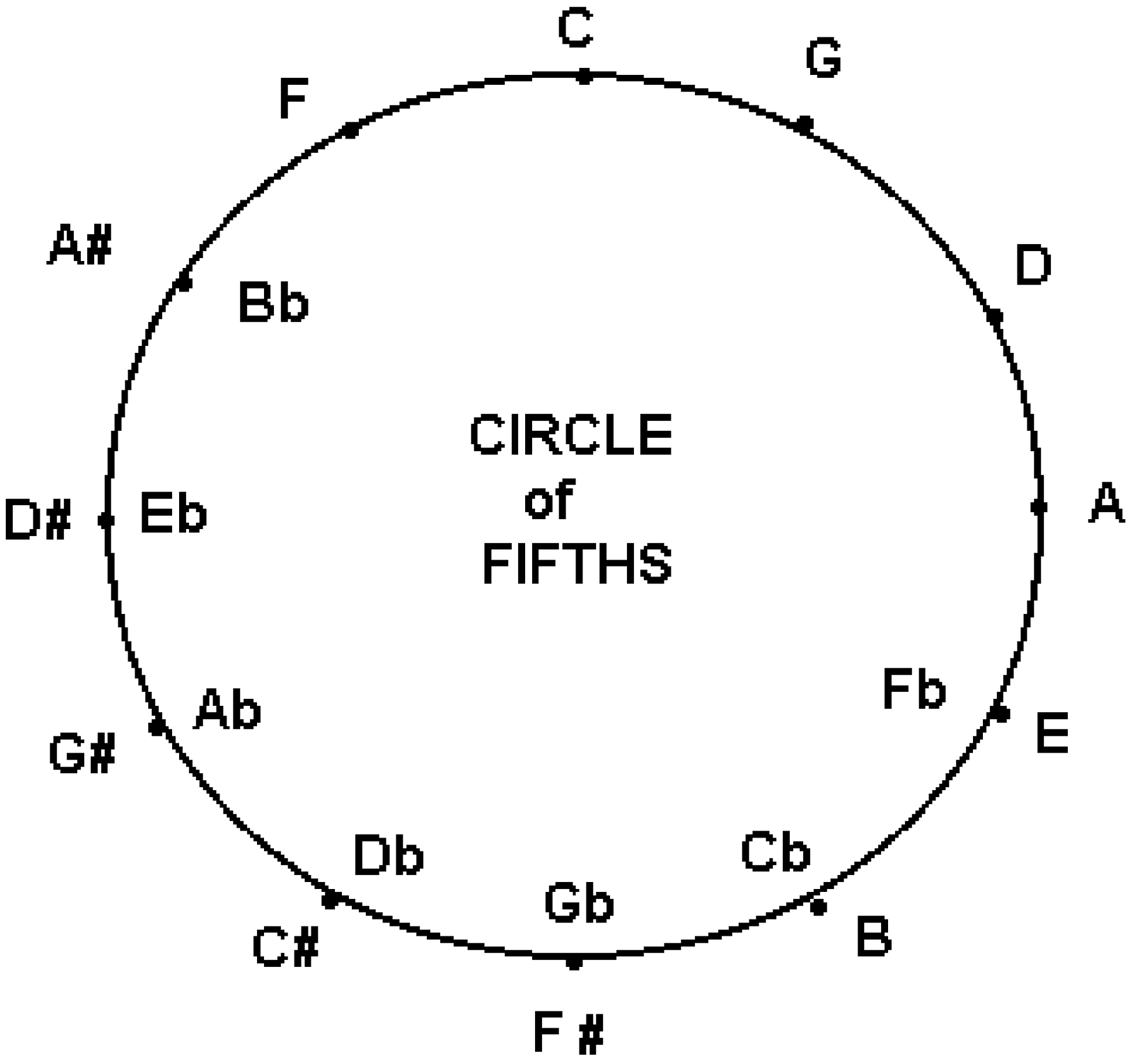
MINOR KEYS:

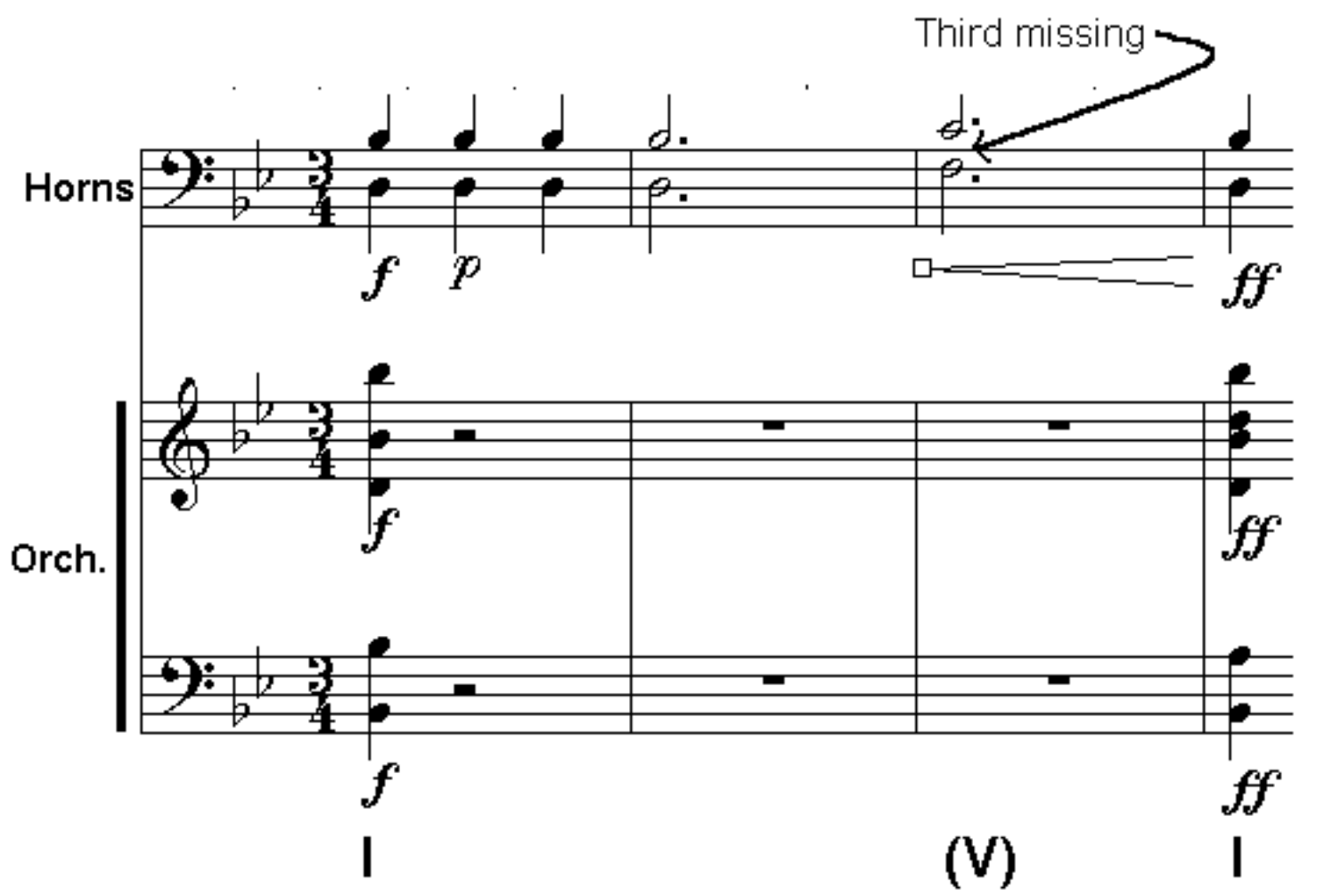


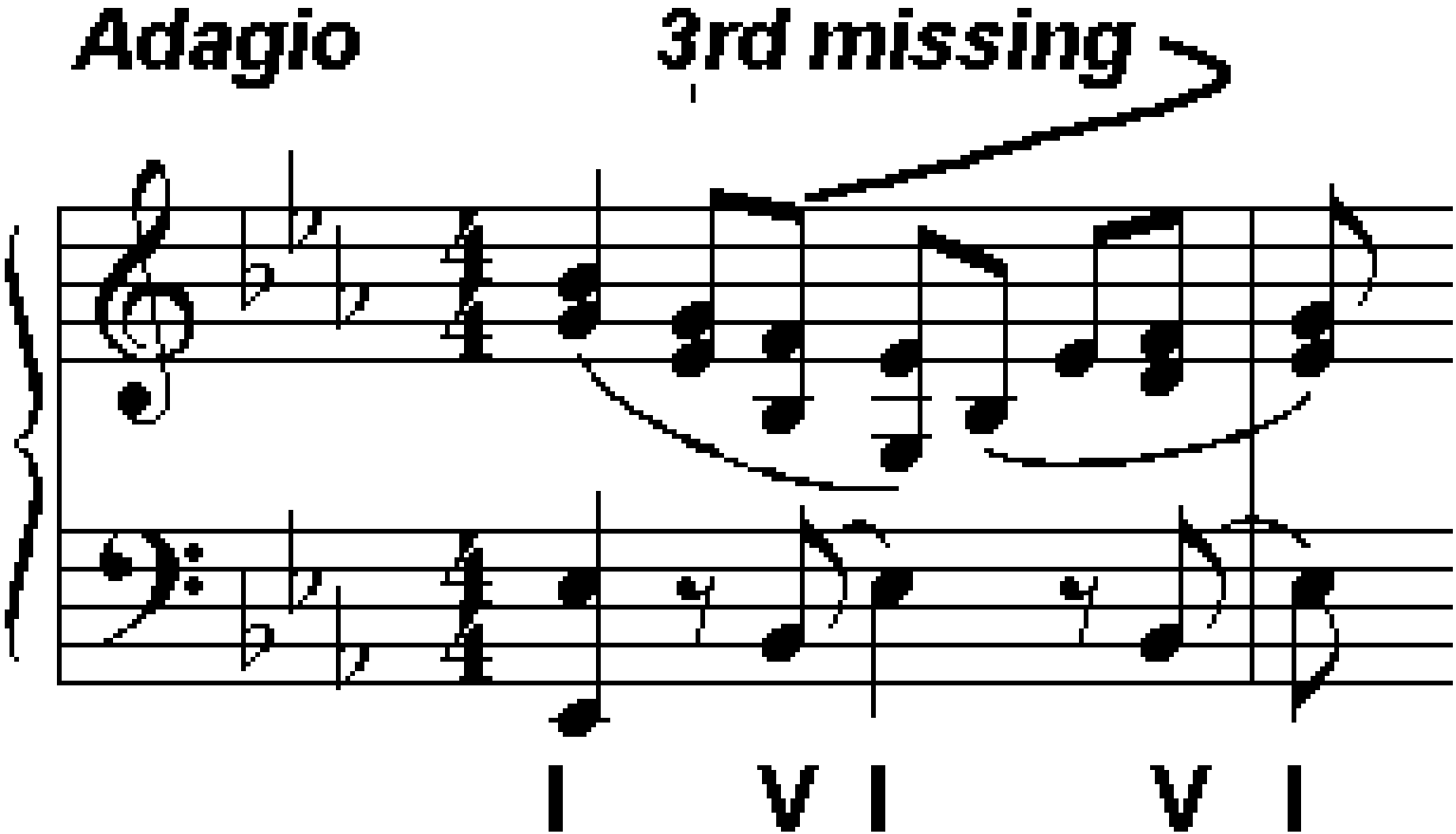


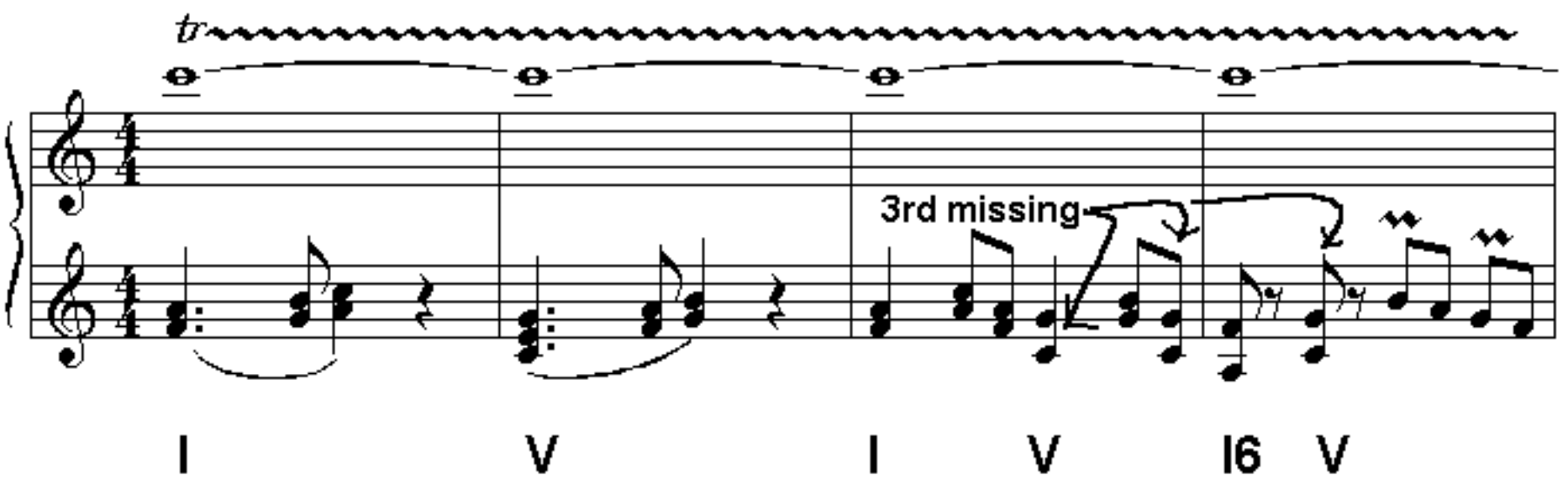

1. 2. 3. 4.
5 5 # 4 6 5
3 #3 2
5. 6. 7. 8.
6 6 6 6 5 — 6 4 — 3
4 4 4 5 3 —


C#/Db
G#/Ab
D#/Eb
Bb
F
F
C
G
D
A
E
B
F#
C#


C
G
D
A
E
B
F #
Gb
Db
Ab
Eb
Bb
F
C#
Cb
Fb
G#
D#
A#
CIRCLE
of
FIFTHS


Third missing
Horns
Orch.
f
p
ff
I
(V)
I


Adagio
3rd missing
I V I V I


tr
3rd missing
I
V
I
V
I6
V