

third edition
HARMONY
in
CONTEXT



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**MIGUEL A.
ROIG-FRANCOLÍ**

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University of Cincinnati



Harmony
harmony in Context
Third Edition

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Education



HARMONY IN CONTEXT, THIRD EDITION

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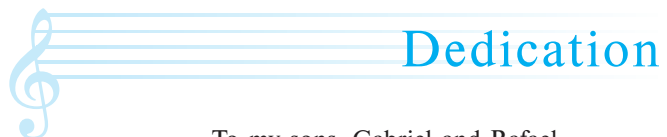
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Dedication

To my sons, Gabriel and Rafael.
And to the memory of my father.

*"Tell me, and I may forget.
Show me, and I may remember.
Involve me, and I will learn."*

ANONYMOUS PEDAGOGUE

About the Author

A native of Spain, Miguel A. Roig-Francolí holds graduate degrees in composition from the Madrid Royal Superior Conservatory and Indiana University, and a Ph.D. in music theory from Indiana University. He is a Distinguished Teaching Professor of Music Theory and Composition at the University of Cincinnati College-Conservatory of Music, and has also taught at Ithaca College, Northern Illinois University, Indiana University, and the Eastman School of Music. His research interests include the history of music theory, Renaissance compositional theory and practice, analysis of early music, and the pedagogy of music theory. Roig-Francolí is the author of *Understanding Post-Tonal Music* and *Anthology of Post-Tonal Music* (McGraw-Hill, 2008), and his articles and reviews have appeared in numerous journals and encyclopedias in the United States, Europe, and South America. His compositions have been widely performed in Spain (including performances by nine major symphony orchestras and by the National Ballet of Spain), England, Germany, France, Italy, Switzerland, Greece, Brazil, Colombia, Mexico, Canada, and the United States. Among his many honors are first prize at the National Composition Competition of the Spanish *Jeunesses Musicales* (1981), second prize at the UNESCO International Rostrum of Composers (Paris, 1982), the Medal of Honor from the Superior Conservatory of Music of the Balearic Islands (2004), the University of Cincinnati's A.B. "Dolly" Cohen Award for Excellence in Teaching (2007) and George Rieveschl Award for Creative and/or Scholarly Works (2009), and the 2016 American Prize in Composition (band/wind ensemble division).

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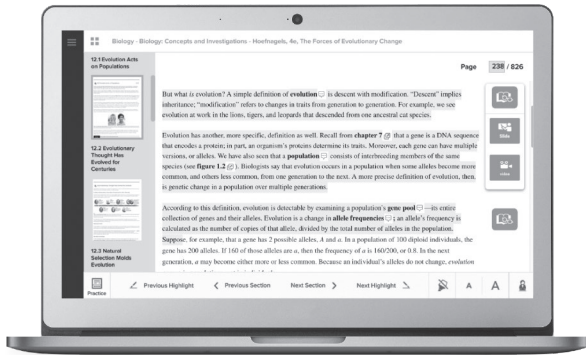
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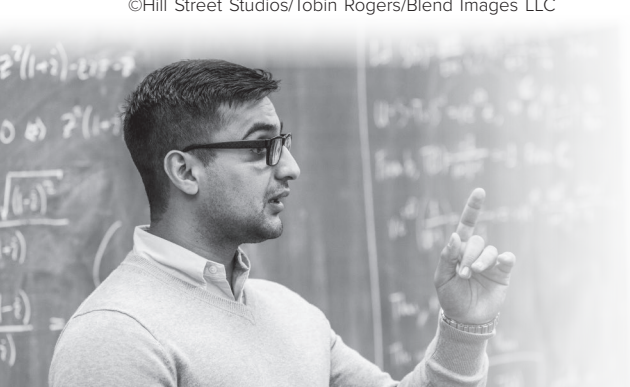
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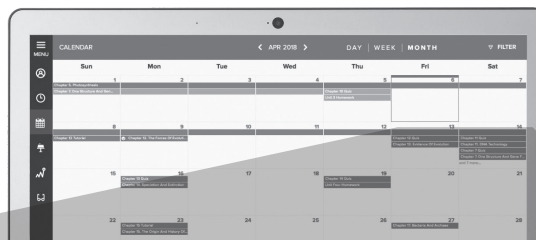
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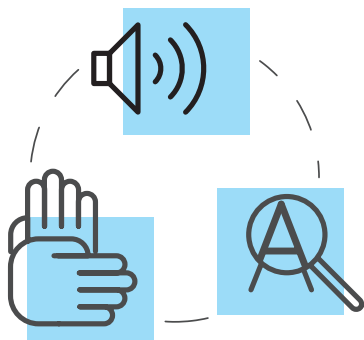
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Preface

Harmony in Context strikes a balance between a variety of pedagogical and theoretical approaches to teaching music theory. Moreover, I have sought to provide the richest possible musical context for the study of harmony. The following are the basic principles that govern this book's style:

1. **Purpose and Intended Audience.** This is an essentially complete harmony and analysis textbook. It is meant to be used by undergraduate music majors, and it covers all the common-practice tonal harmony usually studied in undergraduate theory core curricula over a period of three or four semesters in the freshman and sophomore years. Music fundamentals are summarized and reviewed in the introductory chapters. Because harmony exists only in the context of musical form, form and formal processes are studied throughout the book, both in discussions of specific pieces within chapters dealing with harmonic topics, and in chapters devoted to the main formal types and genres in Part 2.
2. **Music Theory in Context.** The “context” to which the title refers is not only the formal context of harmony. The book also includes frequent references to the metric and rhythmic contexts of harmony, as well as to its historical and stylistic contexts, and to the relationships between drama, text, and harmony in vocal music. Also taken into consideration is the *professional context of the music student*. Students are encouraged and guided throughout the book to understand the relevance of what they are studying here (harmony, musical processes, form) to the better understanding of the music they listen to and perform daily. And they are constantly encouraged to translate this better understanding of processes, tonal direction, harmonic and formal function, and so on, into *better performances and better listening*, thus providing a true context for “theoretical” work. Besides frequent references to context throughout the book, chapters in the third edition include a new section titled “The Context,” where some of the chapter's materials are discussed in a relevant and broad contextual framework.
3. **Active Learning and Student-Centered Pedagogy.** Teaching the student how to think analytically about music and how to make connections between analytical thought and performance decisions has been a major concern in this book since its first edition. A “Socratic” pedagogical approach has often been used for this purpose. By first asking questions on examples, rather than providing immediate answers, I have involved the reader in an active process of inquiry and discovery as a learning tool. The processes of active learning and guided inquiry have been strongly reinforced in the third edition. Students are engaged in the process of discovery through new sections titled “Explorations,” in which they are introduced to concepts through guided study of specific examples, even before the concepts are presented formally in class by the instructor. The “Exploration” sections can be used for large class discussions or for collaborative learning through smaller group discussions. Students thus get directly involved in the learning process through exploration, discovery, and discussion.

4. **Organization and Style.** Good, logical organization, clarity of exposition, and easy-to-use format are primary considerations. The style of presentation is concise and efficient, although in general the outline format has been avoided: Explanations are necessary and pedagogically desirable, and so are analytical discussions of pieces. A clear and visually attractive layout, as well as the use of section and subsection headings and lists where appropriate, are essential aspects that contribute to the effective organization of this book.
5. **Coverage.** The contents are thorough, with equal attention devoted to all significant areas and concepts of tonal harmony, including a detailed coverage of late-Romantic chromatic harmony. The book is aimed at providing both craft in written harmony and the techniques of voice leading, and good understanding of harmonic processes as found in actual music. Chords throughout the book are not presented as isolated vertical units, but rather as *functional* components within larger musical segments, which at the same time also result from horizontal or *linear* processes. These functional and linear processes are themselves studied in their role as form-generating structures within the context of long-range tonal designs. This book's pedagogy is thus based on a synthesis between the functional and linear approaches to hearing and understanding harmony.
6. **Musical Examples.** Each chapter includes numerous examples from the literature, illustrating virtually every concept that is introduced and discussed throughout the book. Besides chapter examples, a musical anthology is provided in the second part of the accompanying workbook, and anthology items are often referred to in the text. Women and minority composers are broadly represented in both the book's musical examples and the anthology. Recordings for all the musical examples from the literature included in both the book and the anthology are provided as MP3 files.

CONTENTS AND PEDAGOGY

The introductory chapters provide a review of fundamentals and an introduction to species counterpoint (acknowledging the fact that many instructors like to teach pedagogical counterpoint either during or at the beginning of harmony curricula). After that, the book is structured in two parts: Part 1, "Diatonic Harmony," and Part 2, "Chromatic Harmony and Form." Part 1 begins with elementary definitions and voice-leading guidelines and covers each of the diatonic triads and seventh chords separately and progressively. Other major topics studied in this first part are harmonic function, texture, cadences, nonchord tones, phrase structure and melodic organization, harmonic rhythm, metric reduction, and diatonic sequences.

Part 2 includes secondary dominants, modulation to closely related keys, modal mixture, the Neapolitan sixth, augmented sixth chords, altered triads, extended tertian chords, chromatic sequences, and a thorough study of modulation to distant keys. Binary and ternary forms are fully discussed in the context of modulation to closely related keys, with emphasis on long-range harmonic design. Two more chapters

on contrapuntal genres and larger formal types cover the study of inventions, fugues, sonata form, and rondo. In Chapter 30, the essential concepts of chromatic harmony are summarized and reviewed, now in the context of the German Romantic *Lied*. Chapter 31 is devoted to the study of late-nineteenth-century nonfunctional chromatic harmony.

Basic formal concepts such as phrase and period structure are central to the study of harmony. The study of small forms in association with modulation (Chapter 21) is also highly recommended. Chapters 22 and 28, on the other hand, are mostly meant for programs that integrate the study of large forms within the study of harmony. In some theory programs, however, large forms and contrapuntal genres are studied in a separate course toward the end of the theory sequence (perhaps using one of the available textbooks focusing exclusively on form). Instructors who follow the latter type of curriculum may simply prefer to skip Chapters 22 and 28, fully or partially. Doing so will cause no detriment to the study of harmony as found in adjacent chapters.

Individual chapters include clear expositions of harmonic function, voice-leading guidelines, and study of standard progressions for the specific chord or technique discussed. The following are some of the salient features included in the book chapters:

- The pedagogical stress regarding chord progressions is on standard, normative *harmonic and voice-leading patterns*. To emphasize this approach further, chapters include a section titled “Characteristic Soprano-Bass Patterns,” which shows the most characteristic two-voice frames that can be harmonized with the chord or chords being studied in a particular chapter.
- A section titled “Elaborating the I-V-I Progression” provides a thread of continuity through the harmonic chapters in the book, as well as a unifying pedagogical paradigm that focuses the student’s understanding of harmonic structure. These sections illustrate the use of particular chords in the elaboration of the basic I-V-I progression.
- Also stressing the concept of harmonic pattern, the *melodic pitch patterns* at the end of each harmonic chapter present linearized harmonies and chord connections, and should be used for singing or as aural exercises.
- Workbook chapters include a section of *keyboard harmony* that allows practice of various harmonic concepts at the keyboard.
- Sections titled “Procedure” outline step-by-step processes for spelling particular chords or realizing analytical tasks.
- Students are encouraged to discover and discuss the practical application of the harmonic concepts studied in each chapter in sections titled “Practical Application and Discussion.” The importance of these sections, which help students make the connection between what they study in theory class and their performance experience, cannot be overemphasized.
- A list of “Terms for Review” at the end of each chapter provides a taxonomical summary of the chapter’s contents.

NEW TO THE THIRD EDITION

Three new sections have been added to the third edition. All three are designed to stress the contextual study of theory and harmony, to enhance student engagement in the learning process, to provide a broad perspective of what we teach in our theory and analysis courses, and to help students understand the musical and practical relevance of the materials and concepts they will learn in this book.

1. *Exploration.* These sections anticipate the presentation of particular concepts. They instruct students to explore specific aspects of given examples, and ask them to provide some answers as a means of discovery through exploration. Instructors can use these sections to introduce new concepts in a way that will engage students directly in the discovery and learning process, thus focusing their attention on the topic before a more formal explanation is provided.
2. *The Context.* These sections discuss topics from the corresponding chapter in ways that illustrate their contextual relevance. Harmonic topics are at times discussed in their musical or formal contexts (by means of references to examples), at other times in their metric and rhythmic context. The historical and dramatic contexts of harmony and form are also addressed, as are matters of affect, performance, and texture.
3. *The Big Picture.* The purpose of this section is to place individual harmonic or formal concepts into a larger framework or picture to show how these individual items function as parts of a larger whole. Most often, this heading contains the discussion and examples also titled “Elaborating the I-V-I Progression.” In some chapters, though, “The Big Picture” discusses large formal frameworks or explains techniques such as metric reduction. In all cases, a connection is made between the detail and the larger musical whole in which the detail functions.

WRITTEN EXERCISES AND KEYBOARD HARMONY

Exercises and musical examples for analysis are included in a worksheet following each chapter, which instructors may want to use for in-class practice. The accompanying workbook provides a second set of exercises to be used as assignments, plus the anthology. Students are required to realize a variety of tasks, including analysis, chord spelling, realization of short progressions, four-voice chorale-style exercises, melody harmonization (beginning in Chapter 5), writing their own progressions (beginning in Chapter 13), and writing keyboard harmonizations (beginning in Chapter 14). The types of exercise found in the corresponding worksheet and workbook sets will not necessarily be exactly parallel. This allows for greater exercise variety. (If a type of exercise appears in a particular worksheet, a different type is occasionally requested in the corresponding workbook set, rather than repeating all the same types featured in the worksheet). Answers to the analytical questions in both the worksheets and workbook, as well as sample realizations for most of the harmony exercises, can be found in a separate instructor’s manual.

Keyboard harmony sections are located at the end of each harmonic chapter in the workbook. Some of the keyboard exercises are tied to the textbook sections “Characteristic Soprano-Bass Patterns” and “Elaborating the I-V-I Progression,” as well as to some of the written exercises (on Roman numeral and figured bass realization and melody harmonization) in both the worksheet and the workbook.

Miguel A. Roig-Francoli
College-Conservatory of Music
University of Cincinnati

A Message to the Student

WHY DO WE STUDY MUSIC THEORY?

When we perform or listen to music, we are dealing with an artistic expression that unquestionably reaches us emotionally. Musical composition and performance (as well as listening), however, are not only emotional—no more than we, as humans, are made up *only* of emotions. There is also an intellectual, rational aspect to music. Music is a means of expression, a language (albeit an abstract one) that functions according to a system and a set of principles and conventions. We can immediately tell a Mozart sonata from an Indian rāga or a piece for Japanese shakuhachi because the languages they use are different.

We all would agree that when actors recite, for instance, Shakespeare, their knowledge of English vocabulary, grammar, and syntax is a great asset to their understanding and rendition of the structure, rhythm, and form of what they are reciting. Similarly, our knowledge of normative English allows us to enjoy the beauty and idiosyncrasies of Shakespeare's expression.

Musical performance is made up of at least three essential components. The technical component is achieved by hours of practice. The instinctive, emotional aspect (which we usually call “musicality”) is part of what we know as “talent,” and is partially innate and partially acquired by listening to good music, having a good teacher, or playing with good musicians. Finally, many musical decisions are intellectual or rational. Such decisions require information and understanding. Our study of the musical language provides this understanding, as well as many criteria to evaluate or appreciate more fully the beauty of specific works. The better we understand the normative, conventional syntax of musical discourse, the better we can enjoy, both as performers or listeners, the styles of specific composers or the richness of their particular musical idioms.

This understanding of the musical system is provided by the study of music theory in its many branches (such as harmony, counterpoint, form, and analytical techniques). Many of the things we learn in the book have a direct bearing on both performance and listening. We learn that a chord or set of chords creates a tension, and why it does so; that this tension may or may not be resolved, that the resolution may be delayed, avoided, prolonged; that some chords do not have a structural entity, but rather act as “harmonic ornaments,” or simply prolong other chords that do have a structural role; and that these, and many other harmonic forces, generate larger expressive units such as phrases, periods, sections, and whole compositions.

A good composer knows the musical language, and composition is as rational as it is emotional; besides following their instinct and “inspiration,” composers plan and realize the shape and structure of their musical works by means of intellectual processes. All of it is directly relevant to performance and to listening, at least if their full potential is to be achieved. The beauty of understanding, provided by music theory, is a rewarding complement to the emotional experiences afforded by music making.

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INTRODUCTION

The Fundamentals of Music

Chapter A

Pitch: Notation and Intervals

Unlike music in other cultures, the Western tonal music tradition has been built largely on notated sound, at least before the advent of such twentieth-century styles as jazz and rock. The notation system we use, developed throughout the Middle Ages and the Renaissance, is based on a variety of symbols and conventions that regulate the notation of pitch and rhythm. These symbols allow us to write on paper or a screen, and then to read, any musical sounds or combinations of sounds, as well as their relative durations and the groupings that result from these durations. In this chapter we review the basic principles for the notation of pitch in Western music.

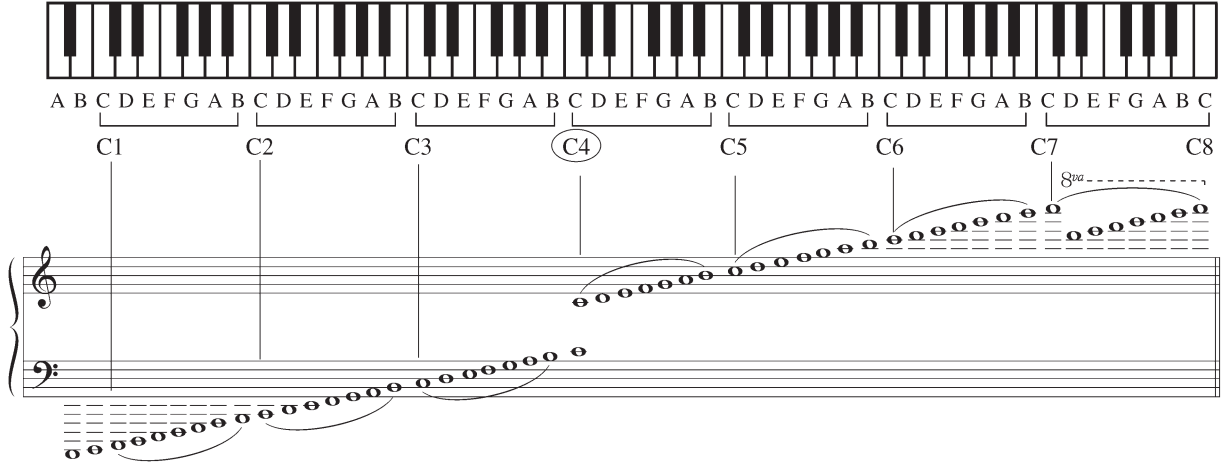
THE NOTATION OF PITCH

The Notes

The fundamental, standard Western collection of notes is made up of seven pitches. When ordered from lowest to highest or highest to lowest, such a collection is called a **scale**. If a scale contains only the seven basic, unaltered pitches, we call it a **diatonic scale**. In English, we use seven letters (**letter names**) to refer to the seven pitches of a diatonic scale: C–D–E–F–G–A–B–C. Notice that after the seventh pitch, B, the first pitch, C, appears again. Because this C is eight notes away from the original C, we say that it is (or it sounds) an *octave higher*. The same seven notes recur in the form of different octaves, as you can easily see in Example A.1.

The upper part of this example shows the location of the notes on a keyboard. Note that the same seven notes appear in several octaves. Although the letters used in each octave are the same, we also use numbers to indicate which octave a pitch belongs to. In this system, the pitch we usually call **middle C** is C4. All the pitches in this octave, from C to B, may carry the suffix 4, as in F4, A4, or B4. The octaves above this **middle octave** are indicated by the **numerical suffixes** 5 to 8, whereas the octaves below it carry the suffixes 3, 2, and 1, respectively.

 Example A.1



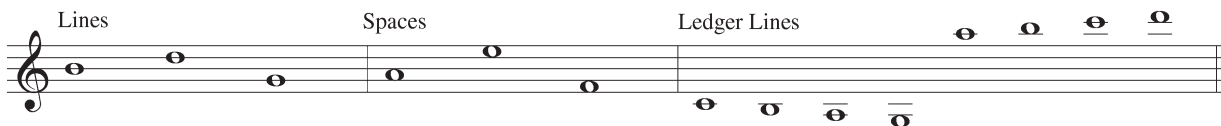
The diagram illustrates the relationship between a piano keyboard and musical notation. At the top, a piano keyboard is shown with 88 keys. Below the keyboard, the letter names A through C are repeated for each octave. The octaves are labeled C1 through C8. The C4 is circled. Below the keyboard is a grand staff with treble and bass clefs. The treble staff shows a sequence of notes from C4 to C8, with an 8va interval marked. The bass staff shows a sequence of notes from C1 to C4, with an 8va interval marked.

The Staff

We notate pitches by means of noteheads on a **staff**. A staff consists of five **lines**. For the time being, our noteheads will be white notes. We can write a note on each of the five lines or in each of the four **spaces** between the lines. We can also extend the staff by adding additional lines, which we call **ledger lines**. Example A.2 shows pitches notated on lines, in spaces, and with ledger lines.

Clefs are used to indicate which letter names correspond with each of the lines and spaces in the staff. Although there are many possible clefs, we illustrate here only the four clefs most commonly found in modern scores: the **treble**, **bass**, **alto**, and **tenor clefs**. The treble clef is a **G clef**; that is, it shows where the pitch G is notated. The bass clef is an **F clef**, and both the alto and tenor clefs are **C clefs**. Example A.3a shows each of these clefs and the pitch that each indicates. Example A.3b shows the notation of middle C with each of these clefs. By using clefs, we can avoid writing too many ledger lines (which make for cumbersome notation). This is illustrated in

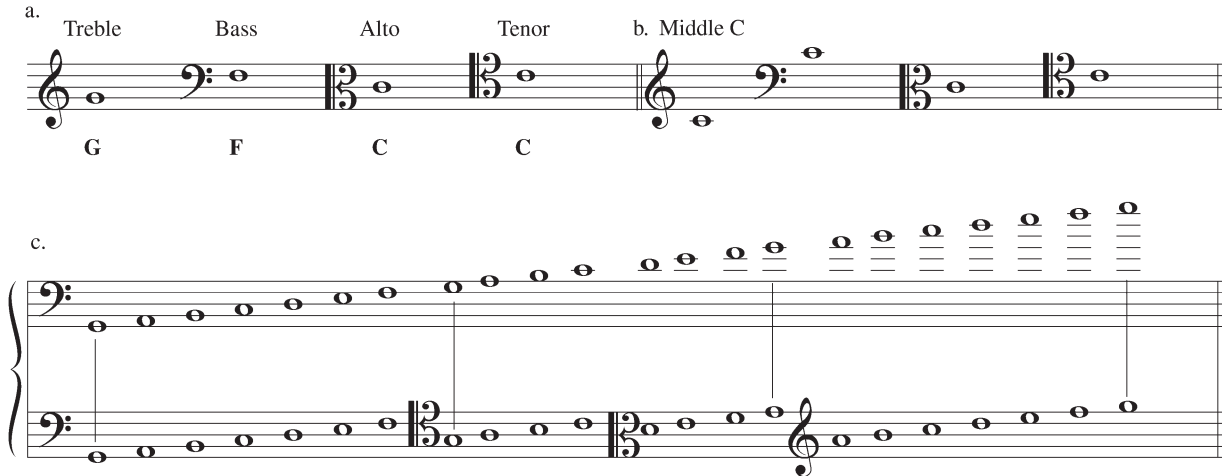
 Example A.2



The diagram shows a single staff with a treble clef. The staff is divided into three sections: 'Lines', 'Spaces', and 'Ledger Lines'. The 'Lines' section shows notes on the five lines of the staff. The 'Spaces' section shows notes in the four spaces between the lines. The 'Ledger Lines' section shows notes on lines below the staff, with the lowest note on a line below the bottom ledger line. The notes are white circles with stems.

 Example A.3

a. Treble Bass Alto Tenor b. Middle C



c.

Example A.3c, where the same scale is notated first with a single clef and then with several clefs. In modern scores, the viola is mostly written in alto clef, and the cello, bassoon, and trombone use mostly bass and tenor clefs.

In the lower part of Example A.1 you can see what we call a **grand staff**, in which two staves are connected by a brace. The bass clef is used in the lower staff, and the treble clef is used in the upper staff. The grand staff allows us to notate the complete range of the keyboard, with the help of ledger lines above and below it.

**EXERCISE**

To practice identifying and notating pitches in various clefs, refer to Exercise 1 in Worksheet A at the end of this chapter.

INTERVALS**Half Steps, Whole Steps, and Accidentals**

Look at the keyboard in Example A.1 and observe the following points:

1. Although the diatonic scale contains only seven different notes (the white keys of the keyboard), there are twelve different keys if you also count black keys.
2. The modern Western tuning system (**equal temperament**) divides the octave into twelve equal parts. The resulting twelve-note scale is called the **chromatic scale**.

3. The distance between two adjacent pitches in the chromatic scale is called a **half step** or **semitone**. The half step is the smallest distance between two different pitches in the standard Western tuning system.
4. Going back to the diatonic scale (the white keys), you can see that some adjacent pitches are related by half step (E-F and B-C), and the rest of them are at the distance of two half steps (C-D, D-E, F-G, G-A, and A-B). Each of the latter has a black key between each of the dyads (a **dyad** is a pair of pitches). The distance of two half steps between two pitches is called a **whole step** or a **whole tone**.

Although the chromatic scale has twelve different pitches, we use only seven different letters to designate notes. To notate the remaining five pitches (the black keys), we use symbols known as **accidentals**. Accidentals (which always *precede* the affected note) raise or lower a note in the following ways:

1. A **sharp** symbol (#) raises a note by a half step.
2. A **flat** symbol (b) lowers a note by a half step.
3. A **natural** symbol (♮) cancels out any previous accidental.
4. A **double sharp** symbol (x) raises a note by a whole step.
5. A **double flat** symbol (bb) lowers a note by a whole step.

Enharmonic Spellings

We can easily observe that any of the twelve pitches can be notated in different ways using accidentals. To begin with the most obvious, each of the notes represented by black keys can be spelled as a sharp or as a flat note. The pitch between C and D, for instance, is both C# and Db. White-key notes, however, can also be notated by means of accidentals: D is the same pitch as Cx, C is the same as Dbb, F is the same as E#, and so forth. Notes that are spelled differently but sound the same, such as C# and Db, are said to be *enharmonic*. Example A.4a shows the two possible spellings (the **enharmonic spellings**) for each of the black-key notes in the chromatic scale. In practice, however, we use only one of the spellings at a time. Which one we use is determined by the harmonic and musical context, as we will study throughout this book. As a general melodic principle, however, sharps are often (but not always) used in ascending passages and flats in descending passages. Examples A.4b and c illustrate an ascending chromatic scale using sharps and a descending chromatic scale using flats.


A result of enharmonic spellings is that we can notate a half step in different ways. A half step spelled using different letter names, as in C-Db, is called a **diatonic half step**, whereas the same half step, spelled using the same letter name, C-C#, is a **chromatic half step**.

Types of Intervals

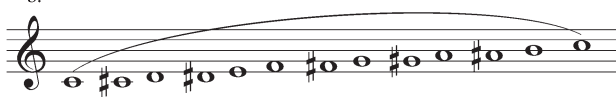
An **interval** is the distance between two pitches. If the two pitches sound simultaneously, the interval is **harmonic**. If the pitches sound successively, the interval is **melodic**.

 Example A.4


a.



b.



c.



The right hand (upper staff) of Example A.5 is melodic, and its intervals are heard horizontally, or melodically. The left hand (lower staff), on the other hand, presents a succession of vertical, or harmonic, intervals.

To label intervals we use two terms. The second term denotes the **size of the interval**: second, third, fourth, and so on. (2nd, 3rd, 4th, etc. are used to indicate the interval size.) The first term describes the **quality of the interval** (perfect, major or minor, and augmented or diminished). Thus, we speak of a minor 2nd, a perfect 4th, a major 6th, and so forth.

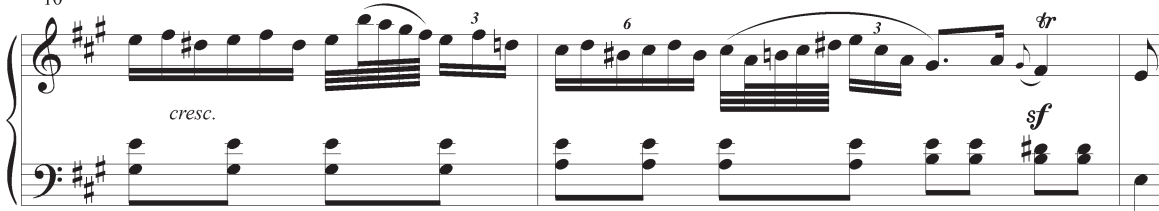
Intervals can be **ascending** or **descending**. The same note names, C and F for example, may be used to denote two different intervals: the ascending distance between C and F (C-D-E-F) is not the same as the descending distance between C and F (C-B-A-G-F).

To determine the size of an interval, count the number of notes between the two pitches, including both pitches in your count. Thus, an ascending C-F is a 4th (four notes, C-D-E-F); an ascending E-C is a 6th (E-F-G-A-B-C); a descending C-F is a 5th (C-B-A-G-F); and a descending A-G is a 2nd (A-G).

 Example A.5

Marianne Martínez, Sonata in AM, I, mm. 10-11

10



 Example A.6



a. PU P4 P5 P8 b. P4 c. P5 d. P4 P5

Perfect Intervals

The modifier **perfect**, used to indicate the quality of certain intervals, refers to the pure and essential sound of these intervals. The only perfect intervals are the perfect unison (abbreviated PU), the perfect 4th (P4), the perfect 5th (P5), and the perfect 8ve (P8). Examples of each of these intervals, starting from C, appear in Example A.6.

1. The perfect unison or perfect prime (PU) is the interval formed by any pitch and itself (C–C, D–D, E \flat –E \flat , F \sharp –F \sharp , etc.). The P8, on the other hand, is formed between a pitch and its octave projection, as in C $_4$ –C $_5$, D $_2$ –D $_3$, and so forth.
2. The P4 is made up of five half steps. You should learn by memory all the possible P4s built from diatonic (white-key) pitches. In ascending form, these are C–F, D–G, E–A, F–B \flat , G–C, A–D, B–E. You can see that the only “glitch” in the system is the P4 from F, which requires an accidental (B \flat). The interval F–B \natural is not a P4, because it contains six, not five, half steps. If we want a P4 with B \natural as the upper pitch, then we need an F \sharp : F \sharp –B \natural .
3. The P5 is made up of seven half steps. The ascending P5s from white keys are C–G, D–A, E–B, F–C, G–D, A–E, and B–F \sharp . Here again, the only “glitch” also involves the notes B and F. Seven half steps up from B take us to F \sharp . If we want a P5 with F \natural as the upper pitch, we need a B \flat : B \flat –F \natural .
4. How about spelling P4s and P5s from pitches other than white keys? Leaving aside the P4s and P5s involving the notes B and F, an accidental applied to any of the pitches in the P4s and P5s listed above automatically requires the same accidental for the other pitch. For instance, in the P4 category, you have C \sharp –F \sharp , D \flat –G \flat , E \flat –A \flat , and so on. And in the P5s, you have C \sharp –G \sharp , D \sharp –A \sharp , E \flat –B \flat , and so on. Examples A.6b and c illustrate the application of accidentals to P4s and P5s; Example A.6d shows the P4s and P5s involving the notes B and F.

Measures 1–6 of Example A.7 are exclusively made up of perfect intervals. Identify and label all of them. Then identify and label the perfect intervals in mm. 7–12.

EXERCISE

To practice writing perfect intervals, refer to Exercise 2 in Worksheet A at the end of this chapter.





Example A.7

Fritz Kreisler, "Praeludium and Allegro," for Violin and Piano, mm. 1-12

Major and Minor Intervals

Refer to the chromatic scale in Example A.4a. If you try to build a 3rd up from C, you will probably think first of the pitches C-E. That is indeed a 3rd. The pitches C-E \flat , however, also form a 3rd. Several intervals allow for two possible standard forms, one smaller and one larger in size. These intervals are the 2nd, 3rd, 6th, and 7th. In each of these cases, the larger interval is called **major** (abbreviated M), and the smaller interval is called **minor** (abbreviated m). In all cases, the difference between major and minor is a half step (major is a half step larger than minor). Examples of each of these intervals presented in ascending form from C appear in Example A.8.

1. *M and m 2nds.* We have already discussed these intervals as the whole tone and the semitone (whole step and half step). The M2 contains two semitones, and the m2, the smallest possible interval in our system other than the unison, is made up of a single semitone.
2. *M and m 3rds.* The m3 contains three semitones, and the M3 four. As we will study in Chapter E, these intervals are the basic building blocks for triads (three-note chords). The lower interval in a major triad (C-E-G) is a M3 (C-E), whereas the lower interval in a minor triad (C-E \flat -G) is a m3 (C-E \flat).



Example A.8

3. *M and m 6ths.* The easiest way to figure out these intervals is by comparing them to a P5. A M6 (C-A) is a whole step larger than a P5 (C-G), and a m6 (C-A \flat) is only a half step larger than a P5.
4. *M and m 7ths.* Here again, it is easier to figure out these intervals with reference to the P8. The M7 (C-B) is only a half step smaller than the P8 (C-C), whereas the m7 (C-B \flat) is a whole step smaller than the P8.

The following passages enable you to practice the recognition and labeling of 3rds (Example A.9a), 3rds and 6ths (Example A.9b), and 2nds and 7ths (Example A.9c). For further practice, identify and label all the nonperfect intervals in Example A.7.



Example A.9a

Johann Sebastian Bach, Prelude no. 6 in Dm, from *The Well-Tempered Clavier*, I, mm. 1–6

Allegro, ma non troppo $\text{♩} = 76$

3

5