

NORTON PROGRAMED TEXTS IN MUSIC THEORY

SCALES
INTERVALS
KEYS
TRIADS
RHYTHM
and METER

JOHN CLOUGH & JOYCE CONLEY

In this revised and expanded text, the procedures of programed instruction are applied to the entire spectrum of basic theory elements so that the beginner—studying with or without a teacher—can prepare for more advanced work, and the advanced student can review the fundamentals of music theory.

Norton Programed Texts in Music Theory

SCALES, INTERVALS, KEYS, TRIADS, RHYTHM, and METER

A Self-Instruction Program

JOHN CLOUGH,

Slee Professor, State University of New York at Buffalo

JOYCE CONLEY,



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SCALES, INTERVALS,
KEYS, TRIADS,
RHYTHM, and METER

By the same authors:
BASIC HARMONIC PROGRESSIONS

ABOUT THIS BOOK

The reader is assumed to know the names of notes in the treble and bass clefs and the names of keys on the piano keyboard. (A note and key chart appears on page xi for reference.) Otherwise, no special knowledge or musical skill is assumed.

The earlier version of this book, *Scales, Intervals, Keys, and Triads*, dealt with the rudiments of pitch and provided a brief introduction to harmony. In the present book, all of the material on pitch has been retained (and revised where necessary) and the treatment of harmony has been expanded to include triad inversions, principles of voice leading, and connection of I, V, and V⁷. An introduction to rhythm and meter has also been added. A second programmed text by the same authors, *Basic Harmonic Progressions*, takes up the study of harmony where this book stops.

The original book was extensively tested at Oberlin College. New materials in this book were brought to final form on the basis of trials in classes at the School of Music, University of Michigan.

In the quarter-century since B. F. Skinner and his co-workers evolved the technique known as "programed instruction," refinements have been introduced and much has been learned about its usefulness for different kinds of materials. Here as elsewhere, however, the basic advantages are still the same: (1) each student works at a personal pace, no faster and no slower; (2) the student is continuously active and is called upon to apply each new fact or idea in a variety of situations; (3) an awareness of individual progress is constant since the student finds out, upon the completion of each task, whether it has been correctly worked out. In these respects, programed learning is akin to study with a private tutor.

TO THE CLASSROOM TEACHER

This program may be used for high school or college courses in elementary music theory. It is intended to provide a foundation for subsequent work in our *Basic Harmonic Progressions*, or in a textbook of standard format. The average college class should be able to complete *Scales, Intervals, Keys, Triads, Rhythm, and Meter* and *Basic Harmonic Progressions* in two semesters, with roughly the first ten weeks devoted to *Scales, Intervals, Keys, Triads, Rhythm, and Meter*.

The material in this book should be covered in the sequence presented, with two possible exceptions: sets 10 and 11, and the corresponding questions in the test at the end of Part 2, may be deferred or omitted altogether. Part 7 may be done at any time.

It can be reported that this book has done an effective job of teaching its subject matter. However, those who adopt it should be cautioned not to expect miraculous extensions of learning to areas not really covered in the program. For example, a student who has completed the program should know that five sharps is the key signature of B major or G# minor. But the ability to identify the key of a given passage in an actual composition is not dealt with in the program, since it ultimately involves a judgment based on aural, not visual facts. The teaching of this skill (not to mention countless others) properly belongs to the classroom teacher.

In order to avoid a large number of exceptions, and exceptions to exceptions, we have adopted a set of relatively simple four-part writing rules. If there is some sacrifice of fine detail in the interest of efficient pedagogy, it is made in the belief that the foundation provided here will support and find compatibility with more elaborate training available to the student through standard textbooks and classroom instruction.

TO THE PRIVATE MUSIC TEACHER

Few private teachers are able to devote sufficient time to basic theory. Many are keenly aware of their students' lack of knowledge of key signatures and other fundamentals. A self-instruction program in theory therefore seems a logical adjunct to private applied study. A good plan might be to assign the student one part of the program at a time and, following the completion of each part, to discuss its applications in a piece currently being studied.

This program was written with students of high-school age and older in mind, but it may also be undertaken by younger students who are musically and intellectually gifted.

HOW TO USE THIS BOOK

The program is divided into seven parts. Each part has several *sets*, and each set contains roughly twenty to fifty *frames*. Each part is followed by a test covering the material in that part. Frames are numbered within each set and separated from one another by horizontal lines. Each frame presents information, asks a question, gives a statement to be completed, or directs that a certain operation be carried out. Occasionally a single frame does two or more of these things.

To use this book, cover the left-hand side of page 1 with the masking card. Read frame no. 1 and write your answer in the book. Slide the masking card down just far enough to expose the correct answer to frame no. 1, which lies directly to the left of frame no. 1. Check your answer. Next read frame no. 2, write your answer, slide the card down and check it. The great majority of your answers will be right. When you do answer a question incorrectly, reconsider the question and try to find your mistake before going on.

Continue with frame no. 3 and on to the bottom of page 1. *Do not turn the page yet.* Insert the masking card *under* the left-hand side of page 1. It will now cover the answers for page 2. After completing page 2, follow the same procedure, setting the masking card in place for page 3 before turning the page. Continue through the book in the same way, doing each right-hand page in order. This arrangement of pages and method of placing the masking card will prevent your seeing answers accidentally while turning pages. When you have completed all the right-hand pages to the back of the book, turn the book upside down and work back through it to the front. Once again, your work will lie on the right-hand pages only.

In writing your answers to the completion questions, observe these conventions: A single blank line such as this _____ calls for one word; two blanks _____ call for two words, etc. In a dotted blank fill in one word, or two words, or any number of words you think will properly complete the statement. Short blanks like this ____ are used when the answer is a letter (x, y, z), a sign (#, b, q, x, bb), a numeral (1, 2, 3 or I, II, III), the name of a note (C, C#, Cb), the word *yes* or the word *no*. Short blanks are also used for certain special abbreviations and signs introduced in the book. All other blanks are the same length, that is _____. If your answer is too long for a given blank, simply write your answer near the blank. Many frames require more than one answer, in which case each answer space may be numbered: (1) _____, (2), etc. When blanks calling for a *series* of items are *not* separately numbered, the items may be written in any order.

Close synonyms of the given answer should be considered correct (for example, *little* instead of *small*). To save time in writing answers, abbreviations may be improvised (for example *sm.* for *small*), but *it is essential that answers be written, not merely thought*. Looking ahead at the correct answer without writing it is a fatal error. It leads to vague answers, guessing, and consequently to poor learning. Remember: *you will not be judged or scored on your performance in this book*. Your goal is command of the subject matter *after* completing the book, and the practice of looking ahead reduces your chances of achieving it.

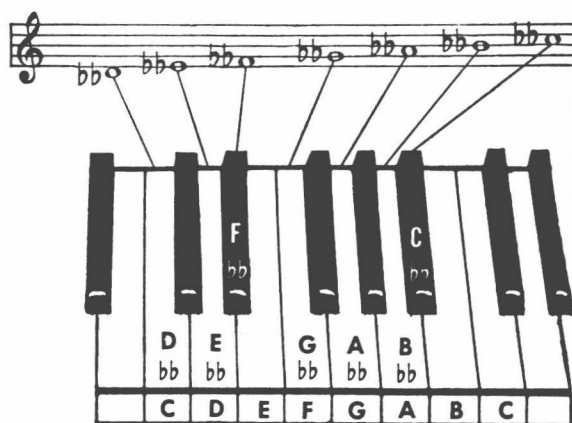
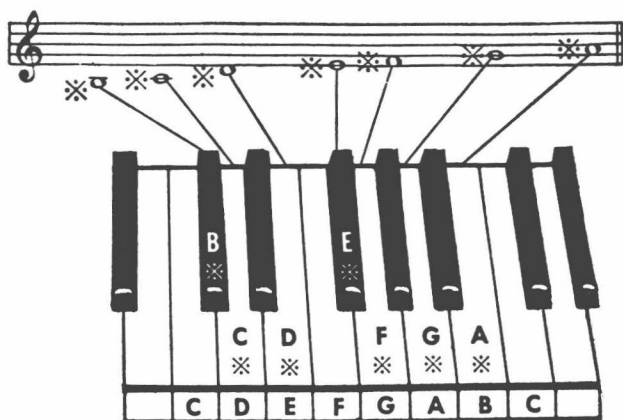
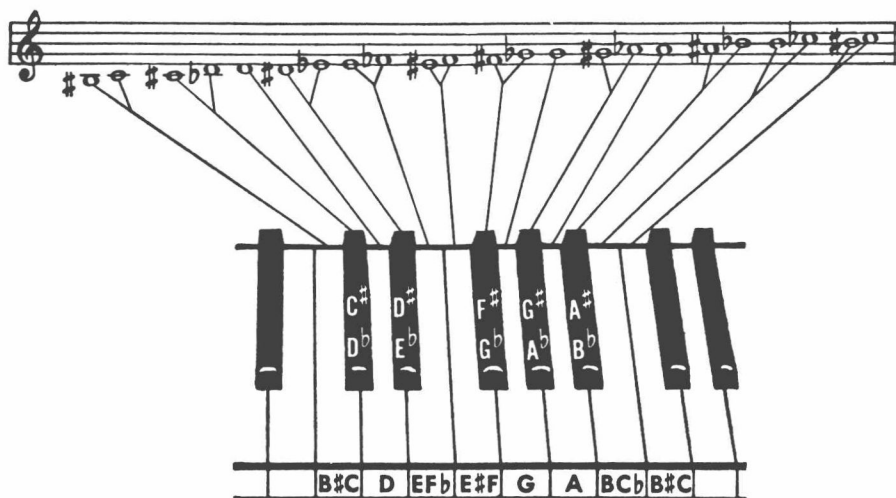
Should you find a set especially difficult, review it before going on to the next set.

When two or more consecutive frames are separated by a dashed line, the first frame of the group contains instructions or examples that apply to the whole group.

A sheet of music manuscript paper should be kept handy—it may be needed occasionally as scratch paper.

ACKNOWLEDGMENTS

Work on the predecessor of this book, *Scales, Intervals, Keys, and Triads*, was begun as part of an Oberlin College project on programed learning supported by a grant from the Ford Foundation. The authors of the present book are grateful for comments and suggestions offered by students at the University of Michigan, and are especially indebted to Professor James Dapogny of the University of Michigan, who reviewed all of the new materials.

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Detach the masking card from the back cover and place over the left side of page 1.

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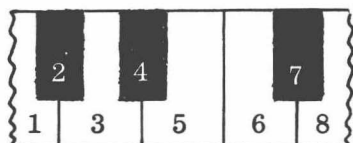
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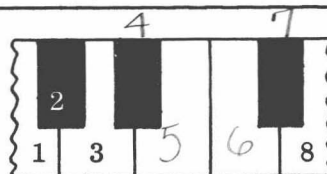
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PART 1 SEMITONES AND WHOLE TONES – THE MAJOR SCALE

Set 1 / THE SEMITONE



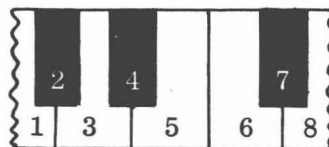
1



This diagram is a section of a piano keyboard. Complete the numbering of keys from the lowest to the highest.

adjacent

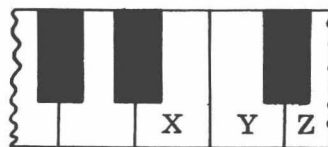
2



Two keys with consecutive numbers are *adjacent*. Key no. 2 and key no. 3 are adjacent. Key no. 2 and key no. 1 are *adjacent*.

(1) X
(2) Z

3



Key Y is adjacent to key (1) X but not to key (2) Z.

adjacent

4 No two black keys are *adjacent*.

adjacent

5



The two notes in example are played on adjacent key. The two notes in example are played on *adjacent* keys.

are

6



These two notes... *are*... (are *or* are not) played on adjacent keys.

are not


7



These two notes... *are not*... played on adjacent keys.

6. In simple meters, the top number of the meter signature gives (1); the bottom number gives (2)
7. In compound meters, the top number of the meter signature gives (1); the bottom number gives (2)

8. The note values that most commonly represent the beat in simple meters are:

 ,  ,  .

9. Beats in compound meters are most often represented by the note values:

□ , □ , □ .

10. Meter signatures having a top number of 12 are _____ (duple, triple, *or* quadruple).

11. $\frac{6}{4}$, $\frac{9}{4}$, and $\frac{12}{4}$ are all (1) _____ meters having (2) as the note value of the beat.

12. For each of the following meters:

1. Classify as simple or compound.
2. Classify as duple, triple or quadruple.
3. Notate the beat.

2 (1) _____ (2) _____ (3) _____

9
8 (4) _____ (5) _____ (6) _____

6 (7) _____ (8) _____ (9) _____
16

$\frac{4}{4}$ (10) _____ (11) _____ (12)

13. Notate the beat, the division, and the subdivision for the following meters:

6 beat = (1)	3 beat = (4)
8 division = (2)	4 division = (5)
subdivision = (3)	subdivision = (6)

14. Provide bar lines for the following:

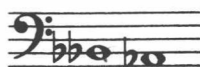
The example begins with a(n) _____.

15. Provide bar lines and beams as appropriate for this rhythmic pattern:

The rhythmic pattern is written in 6/8 time. It consists of the following sequence: a quarter note (G), an eighth rest, a dotted quarter note (A), two eighth notes beamed together (B and C), a quarter note (D), an eighth note (E), another eighth note (F), and finally a quarter note (G) followed by a double bar line.

yes

8

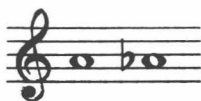


Are these two notes played on adjacent keys? yes (yes or no)

(Students unfamiliar with the double flat sign (bb) should consult the note and key chart on page xi).

one semitone

9



The distance between two notes played on adjacent keys is one *semitone*. The two notes shown are played on adjacent keys. The distance between them is one

semitone

adjacent keys

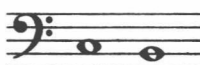
10

Half step and *half tone* are synonyms for *semitone*, but only the word *semitone* will be used in this book.

The distance between two notes played on adjacent key is one semitone.

is

11



The distance between these notes is (is or is not) one semitone.

is

12



The distance between these notes is one semitone.

no

13



Are these notes one semitone apart? no

one semitone

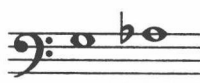
14



These notes are one semitone apart

lower

15



The first note is one semitone lower (higher or lower) than the second note.

lower

16



The first note is one semitone lower than the second note

TEST COVERING PART 7

The questions below will test your mastery of the material in Part 7. Complete the entire test, then check your answers with the correct ones on page 140. For each question that you miss, the corresponding material may be reviewed in the set whose number is given with the correct answer.

1. Draw these note and rest symbols:

- (1) 16th note
- (2) quarter rest
- (3) half rest
- (4) half note
- (5) 32nd rest

2. Add the appropriate note values to the following:

$$\text{half note} = \text{quarter note} + (1) \boxed{}$$

$$\text{half note} = \text{quarter note} + (2) \boxed{}$$

$$\text{half note} + \text{quarter note} = (3) \boxed{}$$

$$\text{quarter note} = (4) \boxed{} + \boxed{} + \boxed{}$$

3. $\text{quarter rest} = (1) \text{ } \underline{\hspace{1cm}}$ (how many?) quarter notes .

$$\text{quarter note} = (2) \text{ } \underline{\hspace{1cm}} \text{ quarter notes}.$$

$$\text{quarter note} \text{ with } \text{accents} = (3) \text{ } \underline{\hspace{1cm}} \text{ quarter notes}.$$

4. Divide the following note value into a triplet pattern:

$$\text{quarter note} = \boxed{}$$

5. The beat in simple meters, a(n) (1) (dotted *or* undotted) note, is normally divided into (2) equal parts.
The beat in compound meters, a(n) (3) note, is normally divided into (4) equal parts.