



音乐学院图书馆藏书  
书号 2400.226  
登记号 134700 XIC

**SOL BERKOWITZ**

**IMPROVISATION  
THROUGH  
KEYBOARD  
HARMONY**

Keyboard Harmony  
2  
Sol  
)



# *Improvisation Through Keyboard Harmony*

**SOL BERKOWITZ**

*Professor of Music  
Queens College of the  
City University of New York*

PRENTICE-HALL, INC., Englewood Cliffs, New Jersey

*Library of Congress Cataloging in Publication Data*

**BERKOWITZ, SOL.**

Improvisation through keyboard harmony.

1. Harmony, Keyboard. 2. Improvisation (Music)

I. Title.

MT224.B49314 781.3 74-2160

ISBN 0-13-453472-7

© 1975 by PRENTICE-HALL, INC.  
Englewood Cliffs, New Jersey

All rights reserved. No part of this book may be  
reproduced in any form or by any means without  
permission in writing from the publisher.

Printed in the United States of America

10 9 8 7 6 5

PRENTICE-HALL INTERNATIONAL, INC., *London*  
PRENTICE-HALL OF AUSTRALIA, PTY. LTD., *Sydney*  
PRENTICE-HALL OF CANADA, LTD., *Toronto*  
PRENTICE-HALL OF INDIA PRIVATE LIMITED, *New Delhi*  
PRENTICE-HALL OF JAPAN, INC., *Tokyo*

# Preface

It is my belief that the art of music in this half of the twentieth century is essentially in excellent health. Throughout the world, colleges and conservatories have an abundance of talented young people, symphony orchestras have both proliferated and reached artistic levels hitherto unknown, concert halls are filled with virtuosic talents of every kind, and there is probably more creative activity, in a broader range of styles, than has ever before existed. Publishers have filled our bookshelves with enormous quantities of both new and old music, and recording companies have made available more discs than most of us would be able to listen to in ten lifetimes. And yet, it is in the nature of the educator to continue to search for new methods of presenting materials which he feels are necessary for the young musician as well as to focus attention on various aspects of the musician's art which were once considered to be basic and which, for various reasons, have been allowed to go into a decline – primarily the art of improvisation and the preparation that leads to the development of that art.

We have all read of the amazing improvisational accomplishments of Bach, Mozart, Beethoven, Chopin, Mendelssohn, Liszt, and Franck, to name only a few of the giants of the past. But what of the eighteenth-century instrumentalist who improvised the cadenza to the concerto he was performing, the church organist who had to improvise during portions of the service, the keyboard player who had only a figured bass part as a guide to his performance, and the operatic singer who was expected to improvise embellishments during the course of an aria? There are even accounts of multiple improvisations. In 1781, when Mozart and Clementi played before Emperor Joseph II in Vienna, they not only improvised solo performances but were asked to perform an ensemble improvisation based on a theme from a Paisiello sonata. Today the art of improvisation is practiced primarily by the jazz musician, and while it is a flourishing art, it is essentially limited to variations over a given harmonic pattern rather than the development of large musical structures. Why has one of the major disciplines necessary to the complete musician been so neglected in the mainstream of musical education? Why, at a time when more young people than ever can perform a Chopin etude with dazzling virtuosity, are there so few musicians who can improvise an accompaniment to a simple folksong, let alone an extended free improvisation?

This problem is exactly the one to which this textbook is addressed. The basic plan is to immediately apply at the keyboard the harmonic language encompassed by most harmony texts and common to the eighteenth and nineteenth centuries. Simple melodies, requiring simple accompaniments limited to tonic and dominant chords are followed by melodic lines which require the use of a larger harmonic vocabulary and more sophisticated accompaniment

patterns. Throughout the text are exercises involving the harmonization of a given line interspersed with opportunities for free improvisation based on germinal ideas. The final chapter, moreover, deals entirely with extended improvisation in a wide variety of musical styles. Also included are two chapters, one using figured bass and one using jazz notation as the basis for improvisation in order to help the musician acquire additional practical skills which he is likely to need in the course of his musical travels.

In essence this book is aimed at helping any musician to "play by ear," to harmonize a wide variety of melodic types, and ultimately to perform free improvisations in extended forms. The stress is placed specifically upon the attainment of highly practical goals, and is not exclusively directed towards the keyboard performer. It is obvious, however, that as keyboard facility develops so will the opportunity for improvisatory virtuosity develop. But the two tracks, improvisation and dexterity, need not be manifest simultaneously on equal levels. Indeed, in the twentieth century the majority of musicians, unlike their colleagues in former times, have been functioning primarily on one track. A remedial effort is sorely needed for the performer and teacher as well as the devoted amateur in order to revive and revitalize one of the most gratifying skills necessary to practical musicianship.

I have used much of the material in this book in two types of teaching situations. At Queens College, there is a three-year Harmony and Counterpoint sequence which meets three hours each week, one of which is devoted to keyboard harmony and improvisation. I have found that the weekly hour spent at the piano has not only fulfilled the goals set forth in this preface but has reinforced the theoretical and compositional aims of the course proper. I have also taught a separate one-year course in improvisation to students with a background in theory, and again have discovered to what extent improvisational skills tend to clarify theoretical concepts.

Finally, it is my ardent hope that this book will find its way into the hands of musicians long before they reach college. I will always be grateful to my first piano teacher who introduced me to the world of Bach and Mozart, as a good teacher should with a somewhat precocious child, but who also found time each week to explore the world of "picking out tunes" and ultimately to have me try to make them sound like the formal models I was studying. I am also beholden to my subsequent piano teachers, Joseph Prostakoff and Abby Whiteside, for introducing me to the concept of transposition as a means of relating the inner ear to the keyboard. If a single technique has helped me more than other to acquire whatever improvisational skills I may have, it is the practice of transposing. It is no accident, therefore, that the one admonition which is used with insistent regularity throughout this text is the single word **TRANSPOSE**.

Much of the credit for this book goes to my students, past and present. They have helped me decide which areas in the process of learning to improvise needed the greatest concentration and which types of exercises had the most merit. I also thank three of my colleagues, Professors Rubin Bergreen, Milton Friedman, and Charles Burkhart who were kind enough to go through the text and offer many valuable comments. My greatest debt is to John Castellini, Professor Emeritus of Music at Queens College, for the care and thoroughness with which he reviewed every note, every comma, and every phrase of this book. Only the most devoted friend could have spent the countless hours required to do the type of pre-publication editing that Professor Castellini did, and only a distinguished musician and educator could have made so many wise and thoughtful suggestions.

S.B.

***Author's Note:*** Uppercase roman numerals are used throughout this book. They indicate the scale steps upon which chords are built rather than the chord quality. This policy has been adopted in order to give the student continuing practice in determining and *hearing* the type of chord being played.

# Contents

PREFACE, xi

## 1

### INTERVALS, 1

*Intervals Derived from the Major Scale, 1*  
*Minor Intervals, 2*  
*Augmented Intervals, 3*  
*Diminished Intervals, 3*  
*Enharmonic Intervals, 4*  
*Exercises, 4*  
*Melodic Transposition, 9*  
*Melodic Improvisation, 12*

## 2

### TONIC, DOMINANT, AND DOMINANT SEVENTH CHORDS, 17

*Dominant Seventh, 23*  
*The Tritone, 23*  
*Harmonizations with Tonic and Dominant, 24*  
*Exercises, 29*

## 3

### THE SUBDOMINANT TRIAD, 33

*Harmonizations with*  
*Tonic, Subdominant, and Dominant, 36*  
*Folksongs to Be Harmonized, 38*

**4**

**INVERSIONS OF I, IV, V, and V7**

*Inversions of Triads, 47*  
*Inversions of Seventh Chords, 48*  
*Improvising Accompaniments, 50*  
*Folksongs to Be Harmonized, 54*

**5**

**THE II, III, AND VI CHORDS AND THEIR INVERSIONS, 64**

*Supertonic, Mediant, Submediant, 64*  
*Folksongs to Be Harmonized, 68*  
*Exercises in Improvisation, 75*

**6**

**NON-HARMONIC TONES, 78**

*The Passing Tone, 79*  
*The Neighboring Tone, 79*  
*Appoggiatura, 80*  
*Suspension 80*  
*Anticipation, 80*  
*Echappée, 81*  
*Pedal Point, 81*  
*Exercises, 81*  
*Folksongs to Be Harmonized, 86*  
*Exercises in Improvisation, 88*

**7**

**THE MINOR MODE, 92**

*Folksongs to Be Harmonized, 97*  
*Exercises in Improvisation, 103*

**8**

**SECONDARY DOMINANTS, 105**

*Folksongs to Be Harmonized, 107*  
*Exercises in Improvisation, 117*

**9**

**DIMINISHED SEVENTH, 120**

*Exercises in Improvisation, 125*  
*Germinal Ideas for Extended Improvisation, 128*

**10**

**SECONDARY SEVENTHS, 130**

*Exercises in Improvisation, 132*  
*Germinal Ideas for Extended Improvisation, 133*



## 11

### MODULATION, 135

*Modulations Using Secondary Dominants  
and Diminished Sevenths, 139*

## 12

### HARMONIC PATTERNS AND SEQUENCES, 143

*Cadential Patterns, 144*  
*Harmonizations of Scale Patterns, 145*  
*Harmonic Sequences Using Secondary Sevenths, 149*  
*Modulating Sequences Using Diminished Sevenths, 152*  
*Sequences Based on the Circle of Fifths, 154*  
*Circle of Fifths Using Dominant Sevenths, 154*  
*Figurations Based on the Circle of Fifths, 155*

## 13

### FIGURED BASS, 160

*Figured Bass, 160*  
*Exercises, 168*  
*Figured Bases by J. S. Bach, 175*

## 14

### POPULAR AND JAZZ CHORD NOTATION, 179

*Basic Chords, 179*  
*Notation Chart, 184*  
*Folksongs Harmonized with Popular Notation, 185*  
*Melodies to Be Harmonized, 190*  
*Exercises in Improvisation, 194*

## 15

### EXERCISES IN IMPROVISATION, 200



*Simple, 200*  
*Moderate, 206*  
*Difficult, 211*  
*Advanced, 215*

### SONG INDEX, 221

### GENERAL INDEX, 223

# 1

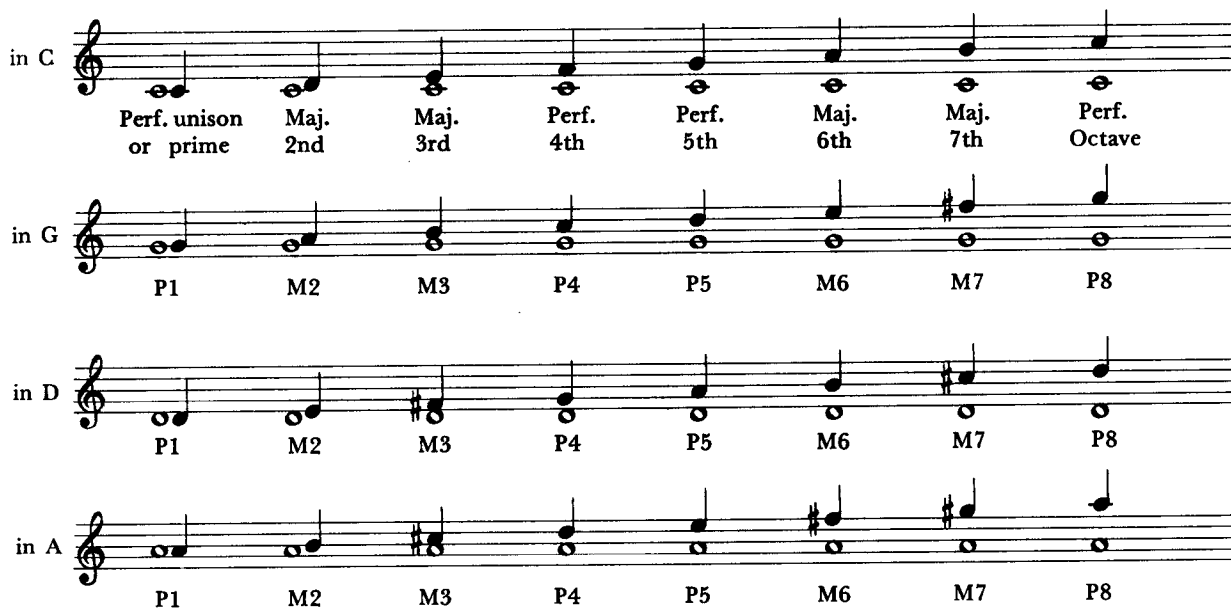
## Intervals

The distance or relationship between any two tones is called an *interval*. The term interval is applied regardless of whether the two tones are struck simultaneously, , or consecutively . When the two tones are sounded simultaneously they are called an *harmonic interval* as distinguished from a *melodic interval*.

There are five basic types of intervals: *major*, *minor*, *perfect*, *augmented*, and *diminished*. The major and perfect intervals can be derived from their relationship to the tonic or key note of the major scale.

### Intervals Derived from the Major Scale

Play the following:



The following musical notation illustrates intervals derived from the major scale in four different keys: C major, G major, D major, and A major. Each key is shown on a separate staff with a treble clef. The intervals are labeled as follows:

- in C:** Perf. unison or prime, Maj. 2nd, Maj. 3rd, Perf. 4th, Perf. 5th, Maj. 6th, Maj. 7th, Perf. Octave.
- in G:** P1, M2, M3, P4, P5, M6, M7, P8.
- in D:** P1, M2, M3, P4, P5, M6, M7, P8.
- in A:** P1, M2, M3, P4, P5, M6, M7, P8.

in E  
P1 M2 M3 P4 P5 M6 M7 P8

in B  
P1 M2 M3 P4 P5 M6 M7 P8

in F#  
P1 M2 M3 P4 P5 M6 M7 P8

in C#  
or  
P1 M2 M3 P4 P5 M6 M7 P8

in Db  
P1 M2 M3 P4 P5 M6 M7 P8

in Ab  
P1 M2 M3 P4 P5 M6 M7 P8

in Eb  
P1 M2 M3 P4 P5 M6 M7 P8

in Bb  
P1 M2 M3 P4 P5 M6 M7 P8

in F  
P1 M2 M3 P4 P5 M6 M7 P8

### Minor Intervals

- 1) An interval that is a half tone smaller than a major interval (M) is called a *minor interval* (m). The alteration can be made by either lowering the top note or raising the bottom note of an interval.

Play the following:

M2    m2    M2    #m2    M3    m3    M3    #m3

M6    m6    M6    #m6    M7    m7    M7    #m7

Transpose the intervals above to the remaining eleven keys in the same order as the previous example.

### Augmented Intervals

2) An interval that is a half tone larger than a major or perfect interval is called an *augmented interval (A)*.

Play the following:

M2    A2    M2    A2    M3    A3    M3    A3    P4    A4

P4    A4    P5    A5    P5    A5    M6    A6    M6    A6

M7    A7    M7    A7    P8    A8    P8    A8

Transpose the intervals above to the remaining eleven keys.

### Diminished Intervals

3) An interval that is a half step smaller than a minor or a perfect interval is called a *diminished interval (D)*.

Play the following:

m3    D3    m3    #D3    P4    D4    P4    #D4

P5    D5    P5    D5    m6    D6    m6    D6

m7    D7    m7    D7    P8    D8    P8    D8

Transpose the intervals above to the remaining eleven keys.

### Enharmonic Intervals

When two intervals sound the same but are spelled differently, they are called *enharmonic intervals*.

m7    A6    A4    D5    m3    m3    P4    P4

### EXERCISES

The following exercises will help give you facility in recognizing and hearing various intervals at the keyboard. Play these with both hands and transpose them to the remaining eleven keys.

Up a major second (two half steps) and down a minor second (one half step)

EX. 1

M2    m2    1

The transposition of Exercise 1 and similar exercises should follow the Circle of Fifths (p. 93) by starting successively on G, D, and A and continuing until you return to C.

c.g.

etc.

etc.

etc.

<sup>1</sup>When the correct spelling or orthography becomes too difficult to read, the enharmonic equivalent is used here and in similar situations. For example at bar 2, a minor second below D# would be C double sharp and bars 3 and 4 would read as follows:

Down a major second (two half steps) and up a minor second (one half step)

EX. 2

Up in consecutive major seconds

EX. 3

Down in consecutive major seconds<sup>2</sup>

EX. 4

Alternating major and minor seconds

EX. 5

Major thirds ascending chromatically

EX. 6

Major thirds descending chromatically

EX. 7

<sup>2</sup>As in Exercise 1, correct orthography has been sacrificed in favor of easier reading in order to avoid bars 5 and 6 appearing as follows:



Minor thirds ascending chromatically

EX. 8

Minor thirds descending chromatically

EX. 9

Alternating major and minor thirds

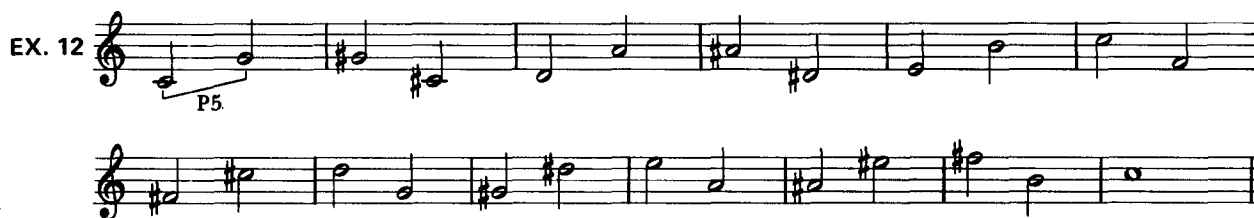
EX. 10

Groups of perfect fourths ascending and descending

EX. 11

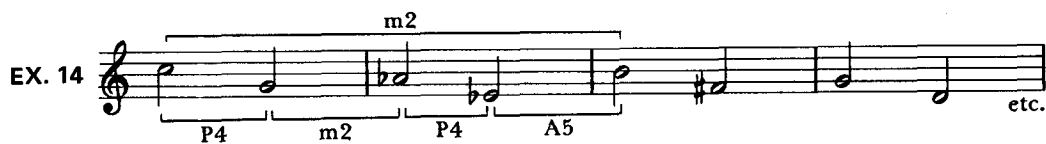


Perfect fifths ascending and descending chromatically

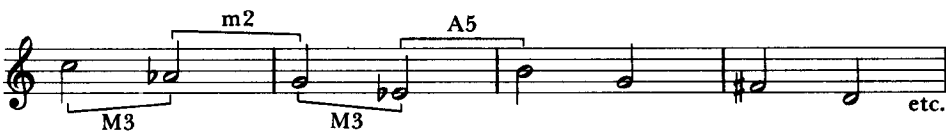


Make up similar exercises using minor sixths, major sixths, minor sevenths, and major sevenths.

In the following advanced exercises analyze the pattern and intervallic relationships, and then continue the pattern for at least one octave.

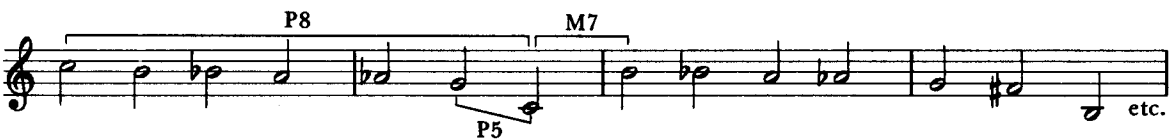


EX. 17 

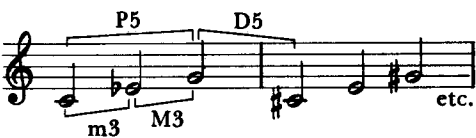
EX. 18 

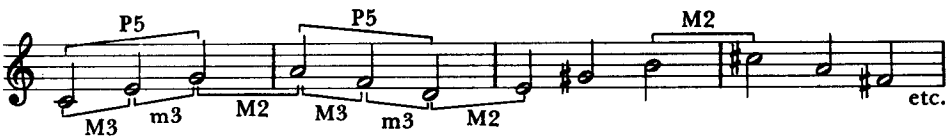
EX. 19 

EX. 20 

EX. 21 

EX. 22 

EX. 23 

EX. 24 

EX. 25 

<sup>3</sup>As in previous examples, correct orthography has been sacrificed for ease of reading, so that an augmented fourth is employed rather than its enharmonic equivalent, the diminished fifth.