Jazz Improvisation for the B-Flat Soprano Trumpet: an Introductory Text for Teaching Basic Theoretical and Performance Principles.

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JAZZ IMPROVISATION FOR THE B-FLAT SOPRANO TRUMPET: AN INTRODUCTORY TEXT FOR TEACHING BASIC THEORETICAL AND PERFORMANCE PRINCIPLES

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The School of Music

by

John Willys McCauley
B.M.E., University of Mississippi, 1959
M.M.E., Mississippi State University, 1965
December, 1973
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ABSTRACT

JAZZ IMPROVISATION FOR THE B-FLAT SOPRANO TRUMPET: AN INTRODUCTORY TEXT FOR TEACHING BASIC THEORETICAL AND PERFORMANCE PRINCIPLES

John Willys McCauley

Jazz is a style of music indigenous to America which has gained acceptance as a creative performing art. Music educators have recognized creativity and self-expression as prime considerations in the formulation of the total music curriculum, and they point to jazz improvisation as one means for developing creative musicianship.

The major purpose of this study was to provide an introductory text for teaching basic theoretical and performance principles of jazz improvisation for the B-flat soprano trumpet. Methods and materials of instruction begin with the initial stages of jazz improvisation, affording the trumpet performer without prior jazz improvisatory experience the opportunity to utilize the contents of this report. As a second purpose, a review of selected rudiments of music considered to be requisite to the study of jazz improvisation was presented with particular emphasis on intervals, chords, scales, and blues fundamentals. A third purpose was to provide basic concepts of jazz
improvisation which would enable the serious student to discover and develop his own creative potential through improvisatory experience and then proceed to become more familiar with current improvisatory practices. The final purpose of this study was to compose original jazz improvisatory models which were designed to initiate and motivate the student toward proficiency in jazz improvisation.

The procedures used in the preparation of this report include historical research, theoretical structures, pedagogical principles, and original improvisatory examples and models of jazz improvisation. Part One contains research supporting the need for a jazz improvisational text, while Part Two is an original textbook. Chapter I discusses the significance of musical creativity and the justifications supporting the need for a sequentially structured text for jazz improvisation. Chapter II presents the results of careful research of instructional texts, music collections, jazz history, and unpublished materials related to the pedagogical aspects of jazz improvisation, which reveal a lack of scholarly endeavor in regard to this musical idiom. An introductory text designed to stimulate improvisatory ability of the B-flat soprano trumpet performer is presented in Chapter III. This text contains a sequentially structured review of selected rudiments of music and places special emphasis on techniques for improvising jazz from pentatonic and modal structures and from the twelve-tone matrix. Chapter IV provides an overview of this study, followed by the
conclusions drawn from this research project and the recommendations for further studies which could make significant contributions to the study of jazz.

The growth of jazz improvisational performance has alerted music educators to the relevance of jazz improvisation to musical creativity. It is hoped that this introductory text will help to equip the jazz trumpeter with the background necessary for learning how to improvise jazz, thus enabling him to discover the varieties of musical experience to be gained from the study of jazz improvisation.
PART ONE

SELECTED METHODS OF JAZZ IMPROVISATION
CHAPTER I

INTRODUCTION

Jazz has been described as a style of music indigenous to the United States initiated by black American musicians during the early twentieth century. Using jazz as a performance idiom for self-expression, these musicians developed improvisatory styles that were adopted in other music in America. For many years, jazz was not considered to be artistic and was, therefore, excluded from educational curricula. However, the proliferation of jazz activities and a revived interest in creativity in recent decades has reflected a significant change of attitude toward the educational validity of jazz. This re-evaluation of jazz as an art form has manifest itself vividly within the music education curriculum. These manifestations were evidenced by the increasing number of jazz festivals and jazz curricula offerings in colleges, universities, and conservatories.

The most well-established jazz curricula are represented by institutions of higher learning such as North Texas State University, Indiana University, the University of Miami, the Juilliard School of Music, the Eastman School of Music, and the New England Conservatory of Music.
This propensity for jazz has been exemplified by philanthropic and governmental endowments that provided funds for various activities instituted as part of the music curricula in cities of the United States.\(^1\)

Additional activities in jazz education have been observed in the penetrating growth of jazz study and performance offered at summer music camps and clinics throughout the United States.\(^3\) The increasing appeal and interest generated by this American music has brought about a change of attitude on the part of school administrators, teachers, and students toward jazz and its place in music education.

The skills of musical improvisation, which have been advocated as major objectives in the musical practice of European and Asian cultures and of American folk musicians, generally have been a neglected element in the general development of American students in music education.

Leonhard and House cited that, beyond the elementary grades, real creativity is lacking in music education programs of the United States. Even in the elementary grades much of what passes for creativity often has a prepared or planned quality. To remedy this situation, the authors recommended an

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\(^1\) New York, Los Angeles, Chicago, and St. Louis.

\(^2\) Max Hentoff, "Jazz and Schools," *International Musician*, XLVII (April, 1966), 10.

emphasis on improvisation at all levels of music study and
pointed to jazz improvisation as a model for the direct approach
to creativity in music education.¹

Mursell's principle of creativity in music stated that
"in a program planned to promote musical growth, our constant
endeavor must be to encourage and help children to respond
creatively in all their dealings with music." Mursell suggested
that creativity cannot be categorized as a separate subdivision
of the music education program, but instead it must be considered
an integral part of the activities included within the music
education curriculum. Mursell further suggested that creativity
should permeate those activities intended to foster necessary
musical growth.²

Wilson discussed improvisation as an important mode of
creativity in music. He observed that improvisation has been
greatly neglected during the first half of the twentieth century,
as opposed to past centuries during which time it was held in
esteem by practicing musicians. It was suggested that the
music educator encourage students to utilize improvisation for
the keener knowledge and understanding of musical elements it
can develop, and the emotional satisfaction it can yield by
enabling students to express themselves. Perhaps the success

¹Charles Leonhard and Robert W. House, Foundations and

²James L. Mursell, Music Education Principles and
of "jam" sessions and other forms of improvisation in music lies in the opportunities for self-expression.¹

Schuller, in his foreword to Coker's *Improvising Jazz*, stated that the training and nurturing of the jazz improver is an area of musical study about which music educators should be more concerned, if only because of the significant contribution that jazz has made in the areas of creativity and self-expression.²

In an address delivered at the national convention of the National Association of Schools of Music in November, 1970, David Baskerville strongly urged the music educators of America to take a candid look at the status of music and how it can better serve the needs of today's musicians. He suggested that there is an obvious avoidance of recognition of that realm of "youth music" in which jazz and blues are included. A re-examination of curricula and course content was recommended so that our present system might meet the needs of and better prepare musicians for the present and future. Specific suggestions of change were presented to those attending the convention. Among the suggestions presented were the teaching of guitar, the restructuring of music theory, a broadening of music history and literature courses to include ethnic and


Afro-American music, music engineering, and the teaching of improvisation, "a technique expected of nearly all performers today."\(^1\)

M. E. Hall, past president of the National Association of Jazz Educators, stated that as music educators

\(...\) we feel that the development of improvisatory skills is important. Improvisation was a part of the techniques and abilities of many of our great composers, and this aspect of music is not commonly taught in traditional schools of music. Jazz improvisation is, of course, stylized, but we feel that the basic procedures and materials would be applicable to any style.\(^2\)

From the published results of the Tanglewood symposium of "Music in American Society," which was held from July 23 to August 2, 1967, the members of the committee on Music of Our Time offered some timely observations resulting from their discussions. This committee stated that music's rate of survival can be attributed to its popularity, its craftsmanship, and its promotion. Music educators recognize the presence of and the need for all types of music. With music moving in new directions, creativity continues to be a prime consideration in the formulation of the total music curriculum. An education in music that emphasizes creative development, permeating the

\(^1\)David Baskerville, "Black Music, Pop and Rock Versus Our Obsolete Curricula," an address delivered to the national convention of the National Association of Schools of Music in New Orleans, La., November 25, 1970.

entire music education field, could make a significant contribution to the realization of the potentials of musicianship.¹

The music educators at Tanglewood further agreed that "music of all periods, styles, forms, and cultures belongs in the curriculum. The musical repertory should be expanded to involve music of our time in its rich variety, including currently popular teen-age music and avant garde music, American folk music, and the music of other cultures."² "A portion of the declaration resulting from this symposium was that education must formulate and institute major goals that promulgate the art of living, the building of personal identity, and nurturing of creativity."³

Wersen, in his charge to music educators, said:

In an era of protest, irritation, and rapid change, when students tell us that the music we teach and the methods we use are irrelevant and ineffectual, music educators cannot simply sit back with eyes closed and ears tuned backward. Clearly, each music teacher's responsibility is to become increasingly aware of the aesthetic needs of not only all his students but also the community in which he serves.⁴

Jazz improvisation, inherently creative, has been recognized as a legitimate performance art gaining international

²Ibid., p. 51.
³Ibid.
⁴Ibid., p. 80.
acceptance in the music education curriculum.\footnote{B. L. Konowitz, "Jazz Improvisation at the Piano--A Textbook for Teachers" (unpublished doctoral dissertation, Columbia University, New York, 1969), pp. 49-50.} Although there was a considerable amount of research conducted in the name of creativity in music education, only limited emphasis was placed on jazz improvisation. After a careful and diligent search of available literature, it was believed that a dissertation designed to provide the inexperienced jazz trumpeter with an introductory text for improvising jazz could make a significant contribution to the field of music education.

**Statement of the Problem**

Music educators have said that jazz improvisation is one important element of jazz which can provide the opportunity for self-expression and creativity. Upon investigating literature pertinent to the basic materials and performance techniques involved in jazz improvisation, it was found that a large majority of the available texts were blues oriented with limited coverage of modal, pentatonic, and twelve-tone matrix improvisatory techniques. Also, it was discovered that research projects in this performance area were either historically oriented or designed for the non-improvising music teacher. The results of this search influenced the decision for initiating a research project dealing with the teaching of, and introduction to, jazz improvisation. Included in this project was a conceptually
oriented review of selected rudiments of music. These rudiments were considered essential to a musical performer's fundamental working knowledge.

The major questions related to this study appeared to be:

(1) Can an introductory text dealing with the teaching of jazz improvisation make a significant contribution to the field of music education?

(2) What specific performance areas should be pursued to achieve this goal?

On the basis of the preliminary search of the literature, it appeared that answers to the above questions could be found by providing answers to the following sub-questions:

(1) Would a conceptual review of selected interval, chord, and scale constructions be helpful to the performer?

(2) Can the results of this project provide the sequential and developmental exercises necessary for a performance of improvised jazz?

(3) What specific content should be included so that the performer might be introduced to selected innovations in jazz improvisation?

Significance of the Problem

During the past two decades, jazz music and improvisation have gained continual momentum in the music education
curricula of the United States. This development, in addition to the lack of research studies concerning jazz improvisation instruction for the B-flat soprano trumpet, indicated the need for a sequentially structured introductory text in this area of musical performance.

The findings of this study resulted in a systematic review of selected rudiments of music and basic performance principles of jazz improvisation considered to be requisite to the study of jazz improvisation. The results obtained from this report should make a significant contribution in the area of jazz improvisation and could encourage others to do further research on this topic. The materials presented in this report should provide further insight into the basic performance techniques of improvising jazz from major and minor harmonies, modal harmonies, pentatonic harmonies, and a selected twelve-tone matrix. Research in the area of jazz improvisation should produce findings resulting in the formulation of sequentially structured exercises which can be helpful to the B-flat soprano trumpet performer of jazz improvisation.

The factors of this research project which appeared to be significant were:

(1) a review of selected rudiments of music
(2) a review of jazz performance skills for the B-flat soprano trumpet
(3) a sequentially structured introduction to basic performance materials necessary for improvising
jazz from selected major and minor harmonies, modal harmonies, pentatonic harmonies, and a twelve-tone matrix.

(4) the suggested exercises and projects provided within the text developing the skills which can result in a performance of improvised jazz.

**Delimitations**

The title, "Jazz Improvisation for the B-Flat Soprano Trumpet: An Introductory Text for Teaching Basic Theoretical and Performance Principles," delimits this project, as does the material listed in the Method of Procedure. Reference to the B-flat cornet and flugelhorn was excluded from this study since those instruments were considered to be members of the trumpet family and because they function similarly to the trumpet. Chord-producing instruments have been omitted due to special performance problems which were considered characteristic of those particular instruments. Therefore, chord voicings and chord inversions have not been included in this report. This introductory text was designed for the student performer whose past musical experiences included a working knowledge of the following fundamental areas of music theory: (1) symbols of music, including chromatics (sharp, flat, and natural signs), staff and ledger lines, bar lines, repeat signs, G and F clef signs, and pitch names and placement on the staff and on ledger lines above and below the staff; (2) those basic rudiments
dealing with the identification, writing, and understanding of melodic and rhythmic performance; and (3) those musical terms that describe tempo, style, and dynamics. The material to be included in this text will be listed in the outline provided in the Method of Procedure.

This introductory text was designed to allow the student performer to progress at his rate of speed and according to his own individual creative potential and initiative. Particular emphasis was placed on selected techniques which can be useful in developing skills in pentatonic, modal, and twelve-tone matrix jazz improvisations, in addition to various other scales and harmonies.

This study was not intended to be an historical resumé or discography of jazz; however, brief musical examples were presented which specifically relate to the current trends and performance styles of jazz improvisation. The improvisation examples included in this text were written by the author to serve as emulative models for building a repertoire of harmonic and melodic concepts which should provide the stimulus needed for the musical maturation and creative development of the performer.

**Definition of Terms**

The following definitions were presented because of their frequent usage and general importance within the content of the major portions of this project.
B-flat soprano trumpet. This term alludes to the modern orchestral trumpet which is described by the following observable characteristics: (1) member of the brass instrument family, (2) a wind-blown instrument utilizing a cup-shaped mouthpiece, (3) constructed in the form of a narrow tube which is cylindrical for approximately three-quarters of its length, (4) pitched in B-flat throughout its range, transposing an interval of a major 2nd above a given concert pitch, and (5) having three valves, piston or rotary, which taken singly or in combination, lower the natural pitch of this instrument by one to six semitones. "B-flat soprano trumpet" was used interchangeably with the term "trumpet."

Jazz improvisation. In this research project, jazz improvisation referred specifically to the act of performing melodic phrases which can be considered a spontaneous musical response by a performer, keeping in mind that the improviser will utilize, either consciously or subconsciously, the cognitive and affective experiences from his musical past and present. This term was used alternately with "improvisation," "extemporization," and "ad-lib."

Jazz. Jazz is a genre of music indigenous to America, combining distinctive characteristics of the fundamental elements of music within a performance design that is usually improvisatory.¹

Southern described jazz as primarily an aural type of music learned through oral tradition. Instruments were used to replace the voice, with "blue notes" and other tonal alterations employed over a traditional harmonic framework. The emphasis of this musical style was placed on individualism, antiphonal procedures, and improvisatory techniques.¹

In this dissertation, jazz was described as a musical style possessing a stylistic relationship to the following general characteristics of harmony, melody, and rhythm:

1. Harmony - (a) tertian; (b) usually functional but sometimes non-functional; (c) mixture of chromatic and diatonic; (d) profusion of chord superimpositions such as sevenths, ninths, elevenths, and thirteenths.

2. Melody - (a) unpredictable contour and direction of improvisation; (b) mixture of disjunct and conjunct lines; (c) more emphasis on motivic brevity than on thematic extension.

3. Rhythm - (a) syncopation (deliberate disturbance of the prescribed pulse of meter, accent, and rhythm), or rhythmic mutation (anticipation by one-third of a beat or by one-half of a beat).

Blues. This expression was used in this dissertation to connote a style of jazz, intimately related to instrumental

performance, featuring melodic improvisation. The harmonic framework chosen to characterize this particular style was a repetitious pattern encompassing twelve measures of music. This pattern basically employed three chords: tonic, subdominant, and dominant. In the course of jazz evolution, sevenths, ninths, elevenths, and thirteenth may or may not have been added to the basic blues harmonies.

Instructor. This term was used alternately with the terms "jazz instructor," "jazz educator," and "teacher." It served to describe one who was directly involved with different types of leadership and teaching roles within a program of music instruction.

Performer. This term classified all participating music students involved in learning and being introduced to the content included in this introductory text for teaching jazz improvisation. Substitute terms used were "student," "student performer," "jazz performer," "student musician," "improviser," "trumpeter," "jazz trumpeter," and "jazz improviser."

Jazz ensemble. This descriptive title referred to a musical ensemble that performs jazz music. This term was used interchangeably with "stage band" and "jazz band" and did not limit this performance group to any standardized instrumentation.

Swing. This term described a style of performing jazz music in which the melody, harmonies, and rhythms of a composition are always present but are sometimes less obviously
submerged in individual interpretations of a theme or chord progression. These interpretations included impromptu variations, invented phrases, and contrapuntal improvisations which were rhythmically synchronized. The more obvious audible aspects were stylistic articulations, rhythmic cohesion, and stability of the tempo.

Style. "Style" is defined in Webster's Dictionary as "mode of expressing thought . . ."; "distinctive or characteristic mode of presentation, construction, or execution in any art . . ."; "manner or mode of singing and playing . . . ." "Style" is described in the Harvard Dictionary of Music as "a mode of musical expression or performance . . ."¹ and serves to categorize the different types of jazz performance.

Twelve-tone matrix. In this study, the term "twelve-tone matrix" was used to describe a diagram of all possible variations of a twelve-tone row. Therefore, it would reveal the original (prime series or P), retrograde (original series in reverse order or R), original inversion (reversed direction of the intervals in original series or I), retrograde inversion (the combining of retrograde and original inversion or RI), and all of its possible transpositions.

Method of Procedure

The preparation for this dissertation has resulted in the formulation of specific areas of review and instruction chosen for introducing selected theoretical and performance principles of jazz improvisation. The following outline was designed to represent a compilation of these specific areas and was organized as a set of textual guidelines for presenting basic theoretical concepts, performance models, and self-discovery projects. These instructional concepts and materials were designed to provide the performer with the fundamental knowledge and skills deemed germane to a performance of improvised jazz.

Three principal categories of instructional concentration were drawn from the outline given below.

First, a review of selected music fundamentals was presented for the purpose of reinforcing basic skills related to the study of intervals, chord structures, scale types, and blues fundamentals.

Second, the introduction of jazz improvisation techniques related to modal and pentatonic concepts and to the twelve-tone matrix were formulated.

Third, original models of jazz improvisation were provided so that the performer was afforded a particular view of a stylistic perspective enabling him to discover for himself the varieties of musical experience available through the study of jazz improvisation.
Outline

I. Review of Selected Literature
   A. Interval Study
      1. General Concepts
      2. Quality Determinants
      3. Evaluative Exercises
   B. Chord Study
      1. General Concepts
      2. Extensions of Structure
      3. Evaluative Exercises
   C. Scale Types
      1. General Concepts
      2. Tonal Models and Construction Concepts
         a. Major and Minor Forms
         b. Diminished and Whole-Tone Forms
         c. Chromatic Form
      3. Modal Models and Construction Concepts
         a. Ionian
         b. Dorian
         c. Lydian
         d. Phrygian
         e. Mixolydian
         f. Aeolian
         g. Locrian
      4. Pentatonic Models and Construction Concepts
         a. Construction Principles
         b. Various Types
5. Evaluative Exercises

D. Blues Fundamentals
1. "Blue" Scale-Tones
2. Twelve-Measure Harmonic Progressions
3. Progression Substitutes
4. Suggested Models
5. Evaluative Exercises

II. Specific Fundamentals and Techniques

A. Pentatonic Concepts
1. Tonal Relationships to Blues Harmonies
2. Suggested Models
3. Evaluative Exercises

B. Modal Concepts
1. Transposition Procedures
2. Thematic Concepts and Harmonies
3. Suggested Models
4. Evaluative Exercises

C. Twelve-tone Concepts
1. Row Construction Principles
2. Twelve-Tone Matrix
3. Suggested Models
4. Evaluative Exercises

III. Summary, Conclusions, and Recommendations

A. Summary
B. Conclusions
C. Recommendations

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CHAPTER II

A REVIEW OF SELECTED LITERATURE

The increasing interest in jazz shown by music educators suggests that jazz should no longer be the private musical domain of its innovators or of those who nurtured it during its years of growth and development. Rather, an ever-increasing number of supporters and followers proclaim its relevance and importance as an artistic performance idiom in music. Observation of the music education curriculum during the last quarter of this century indicates that jazz has gained educational acceptance as a means for providing and fostering creative activities in music performance.

This chapter was devoted to examining literature designed for the instruction of jazz improvisation. The materials for investigation were chosen because of their particular relationship to jazz improvisation techniques for the B-flat soprano trumpet. Additional consideration for the selection of this literature resulted from the various instructional approaches adopted for presenting music fundamentals, technical etudes, melodic and harmonic structures, and self-discovery projects.

A study of the literature dealing with the theoretical and performance principles ascribed to the teaching of jazz improvisation indicated that:
(1) There appeared to be a shortage of materials designed specifically for the jazz trumpeter.

(2) The lack of theoretical treatises on jazz improvisation represented a sparsity of information designed to explore this particular area.

(3) Texts formulated to provide the jazz trumpeter with a sequential and developmental introduction to specified foundations of modal and pentatonic jazz improvisation appeared limited.

(4) The majority of available texts contained musical components which emphasize jazz improvisation as it relates to various historical "blues" styles.

(5) There appeared to be no texts formulated for teaching jazz improvisation on a twelve-tone matrix.

The central focus of the survey of literature was directed to selected texts whose primary design and purpose were made manifest by a system of instructional components that could be used in teaching jazz improvisation on the B-flat soprano trumpet. A perusal was made of additional sources that seemed pertinent to current instructional principles and techniques of jazz improvisation.

The major portion of the literature dealing with jazz was concentrated in the area of historical reporting, while a limited amount of published materials emphasized "blues" harmonies and ensemble techniques. Only in recent years has there been observable evidence of interest in the improvisational
aspects of jazz performance from an educational and instructional standpoint.

Music Collections

Prior to the late 1950s the majority of texts concerned with the instruction of jazz improvisation was related to the piano. The prevalent attention given to jazz improvisation on the piano undoubtedly was because of its potential as a soloistic instrument capable of producing different stylistic and performance techniques.

Bert Konowitz cited numerous examples of works published prior to 1959 which were written for the teaching of jazz improvisation at the piano. His report included a documented list of publications, the contents of which emphasized various jazz-piano styles of the 1920s, 1930s, and 1940s.¹

A number of collections were published for the jazz student whose primary interest was to imitate the solo styles of noted jazz trumpeters. Included in these collections were notated replicas of recorded solos which provided stylistic models of improvisation with emphasis directed toward blues-oriented compositions. The solos contained in these collections displayed the musical models of Bunny Berigan (1908-1942),²

Roy Eldridge (1911- ),\(^1\) Harry James (1916-1973),\(^2\) Chet Baker (1929- ),\(^3\) and Dizzy Gillespie (1917- ).\(^4\) It appeared that these notated examples were not designed for use in a program of sequential and developmental instruction since an advanced level of jazz improvisatory experience was indicated in this publication.

**Historical Survey**

There seems to be an appreciable number of publications devoted to the historical survey of American jazz. An increased interest in the historical survey of American jazz was discerned from an examination of the texts, articles, and other reference materials that pertained to jazz history. The general contents of these writings represented an attempt to report practical and pertinent information regarding jazz chronology, personages, and individual performance styles.

Numerous examples of notated improvisations and facsimiles were found in historical publications such as Hodier's


Jazz: Its Evolution and Essence, 1 Feather's The Book of Jazz, 2 and Schuller's Early Jazz: Its Roots and Musical Development. 3

From these texts, as well as from those whose materials were similarly fashioned, improvisatory examples were provided for the reader to gain a visual perspective of the assorted jazz styles of the past. Another jazz history text that was designed for classroom use on the secondary and higher education levels was authored by Tanner and Gerow. This work presented jazz history in perspective to the stylistic generations that inspired its evolution. A concentrated emphasis was directed to the stylistic nature and processes which characterized the different "eras" of jazz development in the United States. Biographical sketches of innovative performers were included in an effort to report the professional and environmental circumstances which affected the evolution of jazz improvisatory styles. 4

The availability of these editions seemed significant for providing particular materials needed for researching the


lives and music of noted musicians whose modes of creative performance pervaded the history of jazz in America.

Research: A Survey of Literature in the Field

The proliferation of jazz activities in American education in recent years has served to dramatize the surging interest in this performance idiom. Demonstrative evidence of these activities has been manifested by live performances, lectures, workshops, and seminars sponsored by an ever-increasing number of educational institutions. One needs only to read current music periodicals or subscribe to any number of publishers' lists to become aware of these activities signifying the general acceptance of the study of jazz.

Tanner instituted a research project for the purpose of studying jazz curricula in selected colleges, universities, and music conservatories. Faculty members representing more than one hundred American colleges, universities, and music conservatories were consulted during personal interviews regarding jazz instructional practices that were specifically related to jazz scoring and improvisation classes.¹ From the data obtained in this study, it was reported that jazz improvisation and scoring were taught in approximately 15 percent of the institutions under investigation, with a constantly growing number of schools adding these courses to their

curricula. More than 50 percent of the schools under examination required music theory and keyboard study as prerequisites to enrolling in jazz improvisation classes. Instructors consulted during this survey frequently recommended certain textbooks for teaching jazz improvisation in the classroom. Of the texts suggested for instructional use, there was a preference expressed for those texts authored by Coker\(^1\) and Mehegan.\(^2\)

While a majority of instructors used texts for teaching jazz improvisation, there appeared to be a considerable number of instructors who chose to formulate their own course of study, using an improvisatory text only as a reference.\(^3\)

Tanner stated that there was expressed interest on the part of students and instructors in utilizing various jazz recordings in the classroom. These recordings provided the improvisation classes with improvisatory examples for purposes of transcribing the melodic and harmonic materials recorded by the various jazz artists.\(^4\)

The instructors of jazz improvisation consulted during Tanner's research subscribed to a variety of instructional approaches. From the compilation of data resulting from his


\(^3\)Tanner, "Jazz Goes to College," p. 88.

\(^4\)Ibid., p. 89.
study, the following descriptions of modes for teaching jazz improvisation were cited.

Some teachers start by having the students create very simple lines and then develop them; they often augment this direction with a textbook. Others start with a very simple melody and have the students add non-harmonic tones. Some courses are built primarily on ear training, and jazz happens to be the idiom used. There are instructors who work on ear training by using a "monitor-answer" or "call-and-response" method. Some teachers work on two, three, or four tunes in one hour, with each student playing one chorus on each tune. The teacher makes notes of positive criticisms to present at the next meeting. Most classes are involved with only ten or twelve tunes a semester. Sometimes the instructor will strike a chord on the piano and hold it, encouraging each student to play something over it.¹

It was also reported that a majority of the teachers that were interviewed emphasized the theoretical aspects in the improvisation classes including chord and scale construction. The jazz classes that appeared more successful were those allowing a combined emphasis on chord and scale structures. Often the process is to strive for the cognition of various chord progressions and scale patterns specifically related to particular chord structures, then concentrating on the linear aspects of creativity in jazz.²

The results of Tanner's survey related to the instructional practices employed in a majority of jazz improvisation classes indicated a need for guidelines which could result in a structured system for introducing fundamental techniques of the past and present.

Unpublished research designed for the formulation of an instructional method for the jazz trumpeter appeared to be a void in the literature. However, two separate studies related

¹Tanner, "Jazz Goes to College," pp. 89-90.
²Ibid., p. 90.
to jazz instruction were written in recent years. One of these projects was aimed at structuring a method for teaching jazz improvisation at the piano, while the other project was prepared to teach conceptual knowledge of jazz harmonies and scales.

Konowitz's dissertation included a text which was written for the piano teacher whose performance experience did not include jazz improvisation. Also included in this dissertation was an extensive discourse on creative activities and suggestions for their inclusion within the framework of the music education curriculum. Konowitz stated that chord and scale structures were important to the theoretical and performance background of the inexperienced jazz piano improviser. An essential feature noted in this text was the melodic and rhythmic development exercises which employed the "call-and-response" or "statement-and-answer" techniques. One section of this report was devoted to lesson sequences which attempted to relate group participation with the creative processes imbued in the teaching philosophy of Carl Orff. Samples of original piano compositions were included which displayed stylistic tendencies and techniques utilized in a sequential and developmental course of jazz study for the piano.¹

Research dealing with the process of jazz improvisation was completed by Salvatore. The central focus of this work was

directed to the theoretical principles and practices governing scale selections and their relationships to chord structures that were frequently used in various jazz compositions. Salvatore developed a theoretical system for converting chord structures into related scale patterns. A review of chord-spelling systems was provided containing suggested analytical procedures for the student. Further examination of this text disclosed that a major portion of the study consisted of technical etudes which corresponded to the various chord structures presented in the preceding sections of his text. The melodic tessitura of the musical examples and etudes provided in his investigation appeared to be adaptable to the clarinet, saxophone, guitar, piano, and trumpet. Chord progressions, related to the "blues," were included to offer a conceptual perspective, both vertical and horizontal, in manipulating chord and scale sequences. From a theoretical standpoint, this research appeared to include concise coverage of functional harmonic concepts related to tonality in jazz. Curiously, omitted were improvisational principles related to the atonal aspects of extemporization from a twelve-tone matrix.¹

Selected Texts

Examination of commercial publications applicable to the instructional principles and practices of jazz improvisation

revealed an extensive display of chord and scale structures related to the "blues." A small percentage of these publications contained études built on different scales, while other publications emphasized the theoretical aspects of harmony, its constructs and functions. Improvisatory techniques related to current avant-garde jazz received very little attention, and not one author included any instruction for improvising from a twelve-tone matrix.

The material which included a sequential and developmental introduction to jazz fundamentals was minimal. A large number of these texts included technical exercises that required an advanced level of musical experience and maturity in the performer.

In 1959 Mehegan authored a method for teaching jazz improvisation at the piano. This work was set in four volumes, with Volumes I\(^1\) and II\(^2\) directed toward the tonal and rhythmic principles of improvisation respectively, while Volumes III\(^3\) and IV\(^4\) presented an historical resumé of the stylistic development of jazz piano from 1935 to 1965. While the latter three volumes reveal an historical examination of rhythm and the improvised line in jazz and the evolution of jazz piano styles, Volume I contains an introduction to melodic and harmonic

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\(^1\)Mehegan, *Jazz Improvisation*, I, 13.

\(^2\)Ibid., II, 13.

\(^3\)Ibid., III, 13.

\(^4\)Ibid., IV, 13.
concepts. The level of musical sophistication of the student was exemplified by the materials presented in the opening lessons. The order of the presentation of information and drills throughout the remainder of this text dictated that the student should have playing knowledge of tonal and rhythmic notation. The approach used in Volume I appeared to be three-fold: (1) the melodies employed were taken from well-known popular tunes written within the past thirty-five years; (2) the harmonies utilized were derived from major scale-tone seventh chords; and (3) an attempt was instituted to explore tonal material which agreed with the rhythmic complexity used in this volume. Utilizing a lesson approach, melodic and harmonic drills were provided which would allow the student an opportunity for the cognitive reinforcement of musical concepts presented in each block of information. These drills were aimed at furnishing the jazz pianist with pertinent music concepts adaptable to melodic applications, analysis of harmonic structures, and performance techniques peculiar to the piano.

George Russell's *Lydian Chromatic Concept of Tonal Organization for Improvisation*\(^1\) represents another source for drawing attention to improvisatory styles of the past and present. Russell's text contains a series of lessons on various scales used in jazz. Special focus is directed toward modal

concepts and their relationships to major and minor harmonies. These theoretical examples and exercises appeared to be based on a treatment of linear melodic sequences and seemed to be designed for the jazz improviser who was well-informed about harmonic structures and experienced as a performer.

An adaptation of Russell's text was written by David Baker,\(^1\) currently an assistant professor on the music faculty and supervisor of jazz studies at Indiana University. Baker's book consisted of a series of technical etudes based on the modal concepts described by Russell. The exercises consisted of melodies with the note C used as the tonal center for each scale pattern. Instructions were included which suggested that the performer transpose the etudes to all keys. A list of recordings of noted jazz improvisers was provided for demonstrating the extent to which they incorporated these scale concepts in their performances. These etudes appeared to be adaptable to the trumpet, although the tessitura of the upper register sequences denoted excessive demands on the inexperienced trumpeter.

An additional source that presented a workable approach to jazz improvisation was written by Jamey Aebersold.\(^2\) This book proposed the use of the Dorian mode as a scalic reference


for teaching improvisation. Chord studies were provided for illustrating seventh-chord qualities derived from the Dorian mode. Melodic exercises were devised to effect developmental models for the improviser. The concluding portion of this text consisted of performance suggestions and a glossary of various scale-types and chordal structures. Another feature of this text appeared to be the accompanying recording of an experienced rhythm section playing rhythmic and chord accompaniments for students to practice with. All of the melodic materials were written in C concert and appeared to be reasonably adaptable to the trumpet.

There were other available publications which offered technical etudes and performance principles for the more experienced trumpet performer. Two texts that represent this literature are Chord Studies for Trumpet\(^1\) and A Manual for the Stage or Dance Band Trumpet Player.\(^2\) John LaPorta's A Guide to Improvisation\(^3\) represented an instructional approach for relating pentatonic (five-tone) melodies to the basic chord progression frequently employed in "blues." Based on the lesson format, limited instructions were given, conveying a teaching

\(^1\)Raymond Kotwica and Joseph Viola, Chord Studies for Trumpet (Boston: Berklee Press Publications, 1965).


approach to melodic and rhythmic sequences, ear training, and fundamental performance articulations. The pentatonic scales used in this manual were built from three pitches, C, F, and G. The trumpet was listed as one of five instruments to which this method could apply.

Another book which emphasized the teaching of jazz improvisation was written by Jerry Coker.\(^1\) The primary objective of this text seemed to be the presentation of a logical sequence of theoretical principles combined with suggested procedures and techniques which are relevant to producing an improvised performance of jazz. It was suggested that as a prerequisite to this book, the student must possess some technical performing proficiency and should have a basic working knowledge and understanding of major and minor scales. This text includes fundamental aspects of theory and performance skills applicable to a number of treble instruments and to the jazz rhythm section. Particular attention was devoted to concepts of melodic and harmonic structures related to "blues." The instructional organization of each chapter provided a topical explanation, objectives for the student, technical information, musical examples, and specified projects for applying the acquired knowledge and techniques that were presented.

Another book, co-authored by Coker, presented an imposing résumé of arpeggiated chordal études that provide the

\(^1\)Coker, *Improvising Jazz*, p. 12.
performer with gradually expanded melodic patterns. The melodic make-up of these patterns stressed the cycle of fifths, various scales and modes, and superimposed chords with added ninths, elevenths, and thirteenth. The theoretical materials represent an elaborate collection of melodic and harmonic exercises provided for the jazz improviser who is interested in expanding his knowledge of techniques that are used in the improvisations of noted jazz performers. This text was not planned to accommodate any particular instrument and the contents served to emphasize the tonal and modal aspects of music theory and melodic performance related to jazz improvisation.¹

Summary

Reported in this chapter were the findings resulting from a survey of the available literature relative to the teaching of jazz improvisation on the B-flat soprano trumpet. Emphasis was placed on representative texts, jazz histories, music collections, unpublished works, and a survey. The instructional publications investigated were found to provide workable examples and projects related to jazz performance. However, few of these editions were designed specifically for the jazz trumpeter. One of the more obvious findings in this survey was the avoidance of any presentation related to jazz improvisation in twelve-tone style. The consistencies of these

instructional publications were indicated by the continual emphasis on chord structures, melodic and harmonic functions, tonal and model scale structures, and rhythmic characteristics used in jazz. The majority of these texts devoted little attention to fundamental information and review, and none to improvisation on a twelve-tone matrix.
PART TWO

JAZZ IMPROVISATION FOR THE B-FLAT SOPRANO TRUMPET: AN
INTRODUCTORY TEXT FOR TEACHING BASIC THEORETICAL
AND PERFORMANCE PRINCIPLES
CHAPTER III

THE TEXT

RATIONALE

Jazz is a performance style of music native to the United States. Originating in a rural environment, it has evolved into an internationally known style of musical performance reaching audiences on a global basis. Since its inception by black Americans, jazz has become an expressive mode of musical performance in many different racial cultures around the world. The growth rate of jazz as an art form has been revealed by the proliferation of jazz-related activities and curricula offerings instituted in America, in addition to the jazz festivals held annually in foreign countries.

An essential earmark of jazz has been to provide a means for artistic expression through group interaction and/or by individual creativeness. Jazz utilizes many of the musical elements found in most all music such as metric (time) signatures, harmonies of different qualities, theme and variation techniques, stylized melodies, rhythmic articulations, tempi, timbre variances, compositional forms or shapes, and interpretation.
The central focus in this text is directed to the individual performer and to the introduction of fundamental components of jazz improvisation. Jazz improvisation is a distinctive aspect of musical performance in the jazz style. It could be described as a process of combining musical elements and converting these various elements into a spontaneous creation of music. This mode of musical performance challenges the improviser to unify the cognitive and affective domains, subsequently applying various psychomotor skills to the improvisatory process. The essence of jazz improvisation embodies self-discovery, self-expression, and the originality of expression. The cognition of fundamental concepts concerning theory and performance is essential to the improvisatory process and could determine the musical outcome of a spontaneous and creative performance of jazz.

Coker cited five controlling factors that determine the outcome of an improvised performance of jazz. The factors listed were intuition, intellect, emotion, sense of pitch, and playing habits. The function of each factor was characterized as follows: (1) intuition is responsible for the bulk of originality; (2) intellect aids in planning the technical aspects and, combined with intuition, helps to develop the melodic form; (3) emotion determines the mood of interpretive presentation; (4) sense of pitch transforms heard or imagined pitches into letter names and fingerings; and (5) playing habits enable
the fingers to quickly find certain established pitch patterns.\(^1\)

While all of the constituents mentioned above play a vital role in a performance of improvised jazz, it would appear that the controlling factor is the intellect. The intellect controls, in varying degrees, the fundamental applications of the improvisatory process and, more important, it controls the intellectual process for studying musical principles and procedures, and their application to performance. The intellect factor, as it relates to the cognition of theoretical and performance principles, has determined the design of this introductory text. The materials contained in this text cannot assure the performer improvisational success, but should provide a conceptual introduction to the theoretical foundations and performance principles that can be applied to these jazz improvisatory fundamentals.

Relative to the provision of these conceptual strategies in jazz improvisation, Schuller stated that:

It is in the nature of the teaching process that it cannot do any more than present the learner with an insight; it can lead; it can direct; it can imbue the beholder with the enchantment of discovery, the revelation of his relationship to the multiplicity of the world around him. It cannot make him a genius, obviously; it cannot even by itself make him moderately creative. But it can give him some tools with which, if he has the inner urge, he can express himself. It is in this sense that jazz can and, I believe, must be taught. . . . Jazz is a living, forward-moving artistic expression of our time, that has unequalled communicative power. . . . It is a music requiring a continually growing array of skills.\(^2\)

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\(^1\)Coker, Improvising Jazz, p. 3.

For many years, the relevance of the study of jazz improvisation as a performance medium has been a source for discussion and debate among music educators. The following list is offered as significant outcomes that could result from an introductory study of jazz improvisation. The materials included in this introductory text should aid in:

(1) Reinforcing the performer's conceptual knowledge of theoretical structures applicable to jazz improvisation.

(2) Helping the performer to gain improvisatory facility by providing suggested performance models in this text.

(3) Developing the performer's creative potential through exploration of melodic and harmonic formulæ.

(4) Acquainting the performer with fundamental concepts and techniques used in jazz improvisation from a twelve-tone matrix.

(5) Motivating the performer to utilize these introductory musical concepts in developing skills toward a more advanced level of improvisation in the jazz style.

The materials contained in this text were formulated as a result of research committed to the study of jazz improvisation methods of instruction. This study has been cast in two major divisions. The first division has been designated as a review of theoretical concepts, with projects provided for self-evaluation. The second division of this study was devoted to the provision of fundamental concepts applicable to pentatonic, modal, and twelve-tone jazz improvisation, the latter representing the most unique aspect of the study.
The form and content of this text were described above and were planned for application to the B-flat soprano trumpet, although other B-flat instruments, such as the cornet, flugelhorn, soprano clarinet, and soprano saxophone, could be adapted with a minimum of adjustments necessary. These adjustment problems would be more obvious in the areas relating to embouchure and intonation. The range of the melodic material in this text does not exceed small G below middle C of the treble staff and C\textsuperscript{3} above the treble-clef staff. Advisedly, the performance models and exercises presented in this text should be extended to the full range of the trumpet, depending upon the capabilities of the performer, and with the tempi chosen at a level commensurate with the performer's technical skills and musical understanding. The rhythmic complexity of these models and exercises does not exceed eighth-note prolations (duple and triple). Concerning the articulations to be utilized, the performer is advised to employ the legato style by using the articulated vowel sounds "dah," "doot," or "dee" in the tongued-attack of each tone or the performer may choose to vary the articulation approach by slurring the tones given in each example.

An emphasis upon rhythmic interpretation and accentuation has always been an integral aspect of the jazz style.\textsuperscript{1} It would be advantageous to the performer to adhere to the following

\textsuperscript{1}Tanner and Gerow, \textit{A Study of Jazz}, p. 5.
guidelines regarding the rhythmic interpretation and accentuation of performance models and examples presented in this text.

(1) The performer should play an accent on the weak beats in a measure as shown in Example 1.

(2) The performer should play an accent on the weak part (up-beat) of each beat in a measure as shown in Example 2.

(3) The performer should play an accent on all syncopated rhythms including those shown in Example 3.

(4) The performer should interpret eighth-note sequences and dotted-eighth and sixteenth-note rhythms as if each sequence or rhythm was formulated from triplet-prolations of each beat as shown in Example 4.

Example 1.

Example 2.
Example 3.

Example 4.

As a prerequisite to this study, the performer must have a working knowledge of theoretical and performance fundamentals acquired from past musical performance experiences. The performer should be able to effect a demonstrated ability to identify, understand, and notate those interpretations including chromatics (accidentals), repeat signs, pitch names and their staff placement, dynamic and tempo markings, and basic melodic and rhythmic structures. Prior knowledge of structures such as major and minor scales, intervals, chords, and the
"church modes" would be most helpful to the student, although they are not of prime concern, since these items are included in the theoretical review. Also included in the review is a discussion of basic chord progressions conforming to the "12-bar blues" form. The performer's basic theoretical knowledge and technical proficiency of "blues" structures were assumed with guarded caution. Basic "12-bar blues" progressions are presented for the purpose of individual familiarization and the subsequent application of various scale-tone sequences related to pentatonic and modal concepts of jazz improvisation. The concluding portion of this text consists of fundamental concepts related to jazz improvisation from a twelve-tone matrix.

Original models of jazz improvisation are presented in order that the student be provided with visual samples of the improvisatory products that conform to the specific conceptual principles presented in this text. All of the improvisatory models and examples in this text are transposed an interval of a major 2nd above concert pitch, thus conforming to the transposition procedure appropriate for the B-flat soprano trumpet.

It is hoped that the student will utilize and practice the examples and improvisatory models with diligence and determination, effecting a backlog of musical formulae that can be used in a performance of improvised jazz.
REVIEW OF SELECTED STRUCTURES

Interval Study

General Concepts

An interval is the distance between two pitches. A harmonic interval is the distance between two pitches sounding at the same time and a melodic interval is the distance between two pitches sounding in succession. The name of an interval can be measured by the number of half-steps (semitones) and/or whole-steps (whole tones) it contains and then identified by an interval name or an interval can be found by counting the lines and spaces between the two pitches in question.¹

Intervals are named according to the number of letter names encompassed in the interval. For example, C up to G is called a fifth since five letter names (C, D, E, F, G) are encompassed. There are four qualitative terms used for describing intervals. These terms are major, minor, diminished, augmented, and perfect. By combining the letter-name distance and the qualitative terminology the description of the interval can be effected. There are two main categories in which intervals are classified. These categories are simple intervals and compound intervals. Simple intervals are those intervals that encompass one octave or less. Compound intervals are those intervals that encompass more than one octave. Two intervals that sound

the same but are spelled differently are said to be "enharmonic."
For example, C to F# is enharmonically the same as C to G♭.

Quality Determinants

The following presentation provides distance concepts of simple intervals and their quality determinants. Each interval is constructed from the note called C and is illustrated below.

From C to C = (same pitch) -- Perfect Prime
From C up to D = (1 whole-step) -- Major 2nd
From C up to E = (2 whole-steps) -- Major 3rd
From C up to F = (2 1/2 whole-steps) -- Perfect 4th
From C up to G = (3 1/2 whole-steps) -- Perfect 5th
From C to up A = (4 1/2 whole-steps) -- Major 6th
From C up to B = (5 1/2 whole-steps) -- Major 7th
From C up to C = (6 whole-steps) -- Perfect Octave (8th)

Abbreviations used in the following examples are: M = major; m = minor; d = diminished; A = augmented; and P = perfect.

Example 5a.

Example 5b.
If a major interval is made smaller by one half-step, it then becomes a "minor" interval, such as:

- From C up to D\textsuperscript{b} = (1 half-step) -- minor 2nd
- From C up to E\textsuperscript{b} = (1 1/2 whole-steps) -- minor 3rd
- From C up to A\textsuperscript{b} = (4 whole-steps) -- minor 6th
- From C up to B\textsuperscript{b} = (5 whole-steps) -- minor 7th

The minor intervals listed above are shown in the following examples.

Example 6a.

Example 6b.

If a perfect or major interval is made larger by one half-step, it then becomes an "augmented" interval, as shown in the following example.

Example 7.

If a perfect or minor interval is made smaller by one half-step, it then becomes a "diminished" interval, such as:
From C up to $F_b$ = (2 whole-steps) -- diminished 4th
From C up to $G_b$ = (3 whole-steps) -- diminished 5th
From C up to $A_{bb}$ = (3 1/2 whole-steps) -- diminished 6th
From C up to $B_{bb}$ = (4 1/2 whole-steps) -- diminished 7th
From C up to $C_b$ = (5 1/2 whole-steps) -- diminished
Octave (8th)

The diminished intervals listed above are shown in the following example.

Example 8.

The inversion of an interval may be effected by placing the higher pitch one octave lower, or by placing the lower pitch one octave higher. In this procedure major intervals invert to minor intervals and minor intervals invert to major intervals; also augmented intervals invert to diminished intervals and diminished intervals invert to augmented intervals. Perfect intervals remain perfect when they are inverted.

Example 9.
As previously defined, compound intervals are intervals that encompass more than one octave. For instance, an interval encompassing an octave and a perfect fifth would be called a "compound perfect fifth," a "perfect fifth," or a "twelfth" since twelve pitch names are included in the intervallic distance. The interval number greater than eight can be used melodically but it is usually used more preferentially for naming compound harmonic intervals.
Example 10.

\[ P_{5\text{th}} (12\text{th}) \quad M_{2\text{nd}} (9\text{th}) \quad m_{3\text{rd}} (10\text{th}) \quad M_{3\text{rd}} (10\text{th}) \]

\[ P_{4\text{th}} (11\text{th}) \quad A_{4\text{th}} (11\text{th}) \quad m_{2\text{nd}} (9\text{th}) \quad M_{6\text{th}} (13\text{th}) \]

Evaluative Exercises

The exercises presented in this text are intended as suggestions for individual self-discovery projects and for the reinforcement of the materials and information provided in this text. The student performer should thoroughly assimilate the materials presented in each section before proceeding to the next. Suggestions for playing certain exercises dictate that the trumpet be used for playing these performance tasks. The development and use of basic performance skills at the piano could be helpful to the improviser for attaining a more cogent understanding of the concepts of music theory presented in this introductory text.

Complete the following exercises:

1. Name the following melodic and harmonic intervals:
2. Notate the following simple intervals on music manuscript paper and use A as the lower pitch of each interval: M3rd; M2nd; m6th; P4th; P5th; M6th; M7th; A Prime; A5th; d5th; m2nd; m7th; m3rd; A4th; A6th.

3. With E-flat as the upper pitch, construct the following intervals: P5th; m6th; m3rd; M2nd; M6th; m7th; P Octave; d5th; A4th; m3rd; m2nd; A5th; A2nd; P4th; M7th.

4. On the staff below, complete the following compound intervals:
   
   a. Major 3rd (10th) above D.
   b. Perfect 5th (12th) above A♭.
   c. Perfect 4th (11th) above B.
   d. Augmented 4th (11th) above C.
   e. Minor 2nd (9th) above E.
   f. Major 6th (13th) above B♭.
   g. Minor 3rd (10th) above E♭.
   h. Major 2nd (9th) above A.
   i. Diminished 7th (14th) above C.
   j. Minor 3rd (10th) above A.
5. Using music manuscript paper, write the inversion and appropriate name for each interval shown in Exercise 1 above.

6. Where possible, the performer should play all of the above exercises and use the melodic interval for practice purposes.

Chord Study

General Concepts

A chord is the simultaneous sounding of three or more pitches, while two pitches sounded together are usually designated as a harmonic interval. A broken or arpeggiated chord consists of three or more tones sounded in rapid succession. A chord consisting of three pitches a third (3rd) apart is called a triad. The triad is composed of three pitches represented by the root (fundamental or building tone), the third, and the fifth. Triads are constructed by stacking thirds (interval pitches) on top of each other or on every other line or space.

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1 Apel, Harvard Dictionary of Music, p. 162.
Example 11.

There are four types of triads that are emphasized in this discussion. These triad types are: major, minor, diminished, and augmented. Considering that any of these triad types can be structured on any given pitch (the root note), the following principles of triad construction are offered:

1. A triad with a major 3rd and a perfect 5th above the root is called a major triad.
2. A triad with a minor 3rd and a perfect 5th above the root is called a minor triad.
3. A triad with a minor 3rd and a diminished 5th above the root is called a diminished triad.
4. A triad with a major 3rd and an augmented 5th above the root is called an augmented triad.

Example 12.

Another procedure used for triad construction is the stacking of major and minor thirds above the root note. The same four triad qualities result when the following structures are employed:
1. When one major third (3rd of the chord) and one minor third (5th of the chord) are constructed above the root note, respectively, the result is a major triad.

2. When one minor third (3rd of the chord) and one major third (5th of the chord) are constructed above the root note, respectively, the result is a minor triad.

3. When two minor thirds (3rd and 5th of the chord) are constructed above the root note, respectively, the result is a diminished triad.

4. When two major thirds (3rd and 5th of the chord) are constructed above the root note, respectively, the result is an augmented triad.

The following examples provide visual concepts of the four different triad qualities presented in the above procedures.

Example 13.

Example 14.
Example 15.

(Diminished)

Example 16.

(Augmented)

Extensions of Structure

The most basic harmonic structure used in jazz improvisation is the seventh chord.¹ A seventh chord consists of a triad plus the interval of a seventh above the root note of the triad.² Since this discussion basically concerns harmonic structures and the recognition of these structures, a system of chord symbols using letters and Arabic numerals is suggested for use by the improviser. The first letter of each chord symbol indicates the root note upon which each chord is constructed. The root-note letter symbol alone indicates a major triad. The

¹Mehegan, *Jazz Improvisation*, I, 11.
Arabic numeral "7" indicates that an interval a seventh above the root note has been added to the triad. Capital "M" indicates that the added seventh is a major interval; however, a lower case "m" indicates that the triad and the added seventh are of "minor" quality. If the symbol includes only the root-note letter and a "7," without the "M" or "m," then it is understood that the triad is major and the seventh is minor. Therefore, the following seventh chords are written and named according to the concepts listed below:

1. M7 = major seventh chord (major triad with a major seventh added above the root).

2. m7 = minor seventh chord (minor triad with a minor seventh added above the root).

3. 7 = seventh chord or dominant seventh chord (major triad with a minor seventh added above the root).

Samples of these seventh chord types are shown in the following example.

Example 17.
Two types of diminished seventh chords are presented in this text. The first is the half-diminished seventh chord which consists of a diminished triad with a minor seventh added above the root and is indicated by the symbol "#7," and the second is the diminished seventh chord which consists of a diminished triad with a diminished seventh added above the root and is indicated by the symbol 07. The chord symbol 7 is used to indicate a dominant seventh chord with an augmented (raised) fifth. Samples of these seventh chord types are shown in the following example.

Example 18.

Other seventh chord types that deviate from the preceding examples are minor triads with a major seventh added above the root, and dominant seventh and major seventh chords with a "flatted fifth" (indicated by b5). Samples of these structures are shown in the following example. The accidental symbols (#, b, h) assigned to the "7" conform to the accidentals used in the staff notation of the added seventh.
Example 19.

Another chord structure that is frequently used in jazz improvisation is the sixth chord. The two types that are employed are the major sixth chord and the minor sixth chord. The major sixth chord is like the major seventh chord since it uses a major triad for the bottom three pitches, but adds the tone representing a major sixth interval above the root note. A C-major sixth chord (CM\(^6\)) would be spelled C, E, G, A. The C-minor sixth chord (Cm\(^6\)) would be spelled C, Eb, G, A.

Example 20.

Ninth, eleventh, and thirteenth chords are constructed by the superimposition of third intervals above the seventh chord, thereby adding color and a thicker texture to the seventh chord without changing its function. This practice is
commonly used in jazz, since the extension of the seventh chord provides more harmonic choices for the improviser. ¹

In relation to compound intervals, the intervals of the ninth, eleventh, and thirteenth correspond to intervals of a second, fourth, and sixth, respectively. These superimposed intervals (9, 11, 13) can be altered just as the third, fifth, and seventh intervals can be altered. ² The following guidelines are presented as appropriate constructs of ninth, eleventh, and thirteenth chords.

(1) The last letter that precedes the "9" influences the chord quality in the same manner that was described in the discussion of seventh chords.

(2) If the "9" is altered by either a flat sign or a sharp sign, then the Arabic numeral "7" should be placed beneath the "9."

(3) When adding the eleventh and thirteenth it is helpful to place this numeral above the "9" with any alterations (flats or sharps) placed to the left of these added intervals. The adding of "11" and "13" does not affect the seventh chord quality in the same manner described in the "added ninth" procedure.

(4) Remember that the sharped eleventh is enharmonic to the flatted fifth of the chord. Indicate the flatted fifth beneath the "7" or "9," or write a sharped eleven (#11) above the nine.

Samples of the superimposed intervals are shown as follows:

¹Coker, Improvising Jazz, p. 63.
²Ibid.
Example 21.

The following chord-tone chart organizes the tones that comprise major seventh chord spellings, with the ninths, elevenths, and thirteenths indicated above each spelling.

<table>
<thead>
<tr>
<th>13th (6th)</th>
<th>A A# Bb B C C# D D# E b E F F# G G# A b</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th (4th)</td>
<td>F F# G b G A b A b B C b C D D# E b E F b</td>
</tr>
<tr>
<td>9th (2nd)</td>
<td>D D# E b E F F# G G# A b A b b B C C# D b</td>
</tr>
<tr>
<td>7th</td>
<td>B B# C C# D D# E E# F F# G G# A A# B b</td>
</tr>
<tr>
<td>5th</td>
<td>G G# A b A B b B C C# D b D E b E F F# G b</td>
</tr>
<tr>
<td>3rd</td>
<td>E E# F F# G G# A A# B b B C C# D D# E b</td>
</tr>
<tr>
<td>(1) Root</td>
<td>C C# D b D E b E F F# G b G A b A B b B C b</td>
</tr>
</tbody>
</table>
Evaluative Exercises

1. Using the information and examples presented in the discussion regarding chord structures, recite and write all seventh and ninth chord structures built on each root note given in the "chord-tone chart."

2. Write the appropriate chord symbols above each of the following chords.

3. Using the following example, you should be able to recite, write, and play the pitches which comprise the chords that are provided. The slanted lines (/) drawn below each chord symbol represent one beat each.
4. Upon completion of the above exercises, the performer should play chord-tone variations that conform to the pitches comprised in the chords of Exercise 3. The rhythmic complexity of these exercises should not exceed eighth-note rhythms.

Scale Types

General Concepts

The knowledge and application of theoretical fundamentals and the development of technical facility are important aspects of jazz improvisation. The study of scale types and their relationships to harmonies used in jazz improvisation appears to be a necessity for the improviser who aspires to obtain satisfactory results in this performance idiom. Coker regarded the knowledge of scale types that fit the various chord structures as basic to the improviser's tools of jazz improvisatory performance.¹ Baker stated that:

The technique of constructing, choosing, and using scales is one of the most important skills of the improviser. In addition to the many scales already available, the

¹Coker, Improvising Jazz, p. 4.
jazz player is expected to be able to construct additional scales to fit his particular needs. ¹

An investigation of theoretical writings and the recalling of personal experiences with jazz improvisatory performance revealed that the following scales used in jazz should be included in this review.

1. Tonal Types
   a. Major Forms
   b. Minor Forms
   c. Diminished Forms
   d. Whole-Tone Forms
   e. Chromatic Form

2. Modal Types
   a. Ionian
   b. Dorian
   c. Phrygian
   d. Lydian
   e. Mixolydian
   f. Aeolian
   g. Locrian

3. Pentatonic Types
   a. Tonal
   b. Semitonal
   c. Blues (African)

The scale that is considered to be idiomatic to blues harmonies will be introduced in the discussion regarding blues fundamentals. The following presentation will review the scale types listed in the outline above and will cite basic concepts of scale construction relating to different scale-tones comprised in specific scale structures.

The use of the term "mode" and its connotation has been and remains as a subject for debate among jazz musicians. Apel stated that "mode," in the widest sense of the word, denotes the selection of tones or pitches arranged in a scale that form the basic tonal substance of a musical arrangement or composition. In a narrower sense, the term "mode" refers only to those scales that can be characterized as the medieval church modes, such as Ionian, Dorian, Phrygian, Lydian, Mixolydian, and Aeolian.¹ It is with specific reference to these scale types that the terms "mode," "modal," and "modality" are used. The terms "tonal" and "pentatonic" (five-tones) are used in these discussions to describe scale types that are related to major or minor key-centers.

A **scale** is a series of ascending or descending pitches using, in a prescribed order, the letter names of the musical alphabet, beginning on any one letter.² The number of pitches and the distances between them vary according to the particular type of scale. In this discussion, all scales will span one octave although the performer may expand them to two octaves when he considers it technically feasible.

**Tonal Models and Construction Concepts**

**Major scale.** This scale consists of a series of eight tones (tone 8 being a repetition of tone 1) containing all

²Ottman, *Elementary Harmony*, p. 3.
whole-steps except for half-steps between the third and fourth and the seventh and eighth tones of this scale. ¹ The relationship between these eight scale-tones is as follows (1 = whole-step, 1/2 = half-step).

Example 22.

\[
\begin{array}{cccccccc}
\text{Whole step} & \text{Half step} & \text{Whole step} & \text{Half step} & \text{Whole step} & \text{Half step} & \text{Whole step} & \text{Half step} \\
\end{array}
\]

In major scales other than C major, it is necessary to alter chromatically (by using sharps or flats) certain scale tones in order to retain the proper whole-step and half-step relationships. These relationships are illustrated in the following example.

Example 23.

\[
\begin{array}{cccccccc}
\text{Minor scales. These scales consist of a series of eight tones (tone 8 being a repetition of tone 1) in which the relationship between successive tones differs from that of the major scale. There are three forms of minor scales.²}
\end{array}
\]

1. Pure (natural) minor scale. The relationship between successive tones is as follows:

¹ Ottman, Elementary Harmony, p. 3.
² Ibid., p. 4.
2. Harmonic minor scale. The harmonic form of the minor scale is similar to the pure minor form, except for the seventh scale-tone being raised one half-step. This results in a distance of 1 1/2 steps between scale-tones six and seven and a half-step between scale-tones seven and eight. The harmonic minor scale is shown in the following example.

Example 25.

3. Melodic minor scale. The ascending form of the melodic minor scale is similar to the pure minor form, except for the sixth and seventh scale-tones being raised one-half step each. The descending form of the melodic minor scale is the same as the pure minor scale. The melodic minor scale is shown in the following example.

Example 26.

4. Diminished scale. This scale is comprised of nine successive tones (tone 9 being a repetition of tone 1) which is structured in a series of alternating whole-steps and half-steps. By dispensing

---

\[\text{Ottman, Elementary Harmony, p. 4.}\]
with enharmonic spellings such as $D^b\ C\#$, $F\ E\#$, and $B^b\ A\#$, three different diminished scales can be constructed.\(^1\) See Example 27a. Example 27b is an illustration of the half-diminished scale. The half-diminished differs from the diminished scale since the half-step intervals occur between scale-tones one and two and between scale-tones four and five.

Example 27a.

![Example 27a](image)

Example 27b.

![Example 27b](image)

The increased usage and popularity of the diminished scale in jazz today prompted the inclusion of this scale-type in this review. Coker stated that "the diminished scale derives its name from the diminished seventh chord."\(^2\) Another source referred to the "artificial scale" of which its invention was credited to Rimsky-Korsakov.\(^3\) From the C diminished scale presented in Example 26, the letter names of the whole notes spell a diminished seventh chord on C ($C, E^b, G^b, B^{bb}$).

\(^1\) Coker, *Improvising Jazz*, p. 51.

\(^2\) Ibid., p. 5.

and the spelling of a D diminished seventh chord (D, F, A\textsuperscript{b}, C\textsuperscript{b}) can be derived from the letter names of the quarter-notes. Although chord functions are not included within the scope of this review, it should be pointed out that "the diminished seventh chord can resolve to almost any chord and sound reasonably acceptable,"\textsuperscript{1} therefore emphasizing the importance and versatility of the diminished scale in jazz improvisation.

**Whole-tone scale.** This scale consists of whole tones (whole-steps) only, using six different tones to the octave. By dispensing with enharmonic spellings only two such scales can be constructed. They are spelled: C, D, E, F\#, G\#, B\textsuperscript{b}, C and D\textsuperscript{b}, E\textsuperscript{b}, F, G, A, B, D\textsuperscript{b}. The whole-tone scale lacks three fundamental intervals of traditional music, the perfect fifth, perfect fourth, and leading tone (seventh) scale degree one-half step below the key-note or tonic. Owing to the presence of only one kind of interval, the whole-tone scale completely lacks the feeling of centralization (key-note or tonic) that, in the scales previously cited or in church modes (to be discussed later), is indicated by the presence of a specific key-note or tonic.\textsuperscript{2} The following example provides a visual sample of the whole-tone scales mentioned above.

\textsuperscript{1}Coker, *Improvising Jazz*, p. 51.

Example 28.

Chromatic scale. This scale is constructed exclusively of half-steps. By subdividing each whole-step into two half-steps, e.g., of F G into F-F# and F# G, each octave (six whole-steps) will produce twelve half-steps. ¹ The chromatic scale is shown in the following example.

Example 29.

Modal Models and Construction Concepts

The church modes rooted in medieval music represent one of the most important scalar elements of jazz improvisation.² These modal scale-types are frequently used in jazz melodic development.³ Experienced jazz improvisers often relate the different modal scales to the major scale representing a major key signature. It is from this major scale relationship that the following exposition of modal structures are introduced to the performer. The mode names are borrowed from those "theoretically recognized in the Dodecachordon (system of 12 modes)

²Mehegan, Jazz Improvisation, p. 82.
³Konowitz, Jazz Improvisation at the Piano, p. 127.
of Glareanus in 1547,\(^1\) as the authentic modes. The seven modal scale-names included in this discussion are Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, and Locrian. The following chart illustrates the authentic church modes found in the key of C major:

<table>
<thead>
<tr>
<th>Scale-Key</th>
<th>Mode</th>
<th>Displacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM</td>
<td>Ionian</td>
<td>1-1 (C-C)</td>
</tr>
<tr>
<td>CM</td>
<td>Dorian</td>
<td>2-2 (D-D)</td>
</tr>
<tr>
<td>CM</td>
<td>Phrygian</td>
<td>3-3 (E-E)</td>
</tr>
<tr>
<td>CM</td>
<td>Lydian</td>
<td>4-4 (F-F)</td>
</tr>
<tr>
<td>CM</td>
<td>Mixolydian</td>
<td>5-5 (G-G)</td>
</tr>
<tr>
<td>CM</td>
<td>Aeolian</td>
<td>6-6 (A-A)</td>
</tr>
<tr>
<td>CM</td>
<td>Locrian</td>
<td>7-7 (B-B)</td>
</tr>
</tbody>
</table>

**Ionian mode.** This modal scale is structured identically the same as a major scale (see Example 22), with half-steps occurring between scale-tones three and four and between seven and eight. Half-steps are indicated (\(\wedge\)) in all of the following modal examples.

**Dorian mode.** This modal scale consists of whole- and half-steps, with the half-steps occurring between scale-tones two and three and between six and seven, and is shown in the following example.

Example 30.

\[\text{Example 30.}\]

Phrygian mode. This modal scale consists of whole- and half-steps, with the half-steps occurring between scale-tones one and two and between five and six, and is shown in the following example.

Example 31.

Lydian mode. This modal scale consists of whole- and half-steps, with the half-steps occurring between scale-tones four and five and between seven and eight, and is shown in the following example.

Example 32.

Mixolydian mode. This modal scale consists of whole- and half-steps, with the half-steps occurring between scale-tones three and four and between six and seven, and is shown in the following example.
Example 33.

\[
\text{Aeolian mode. This modal scale consists of whole- and half-steps, with the half-steps occurring between scale-tones two and three and between five and six, and is shown in the following example.}
\]

Example 34.

\[
\text{Locrian mode. This modal scale consists of whole- and half-steps, with the half-steps occurring between scale-tones one and two and between four and five, and is shown in the following example.}
\]

Example 35.

\[
\text{Pentatonic Models and Construction Concepts}
\]

A pentatonic scale is one that contains five tones to the octave. Apel cited three general types of pentatonic scales: tonal, semitonal, and Javanese slendro. The tonal
pentatonic scale is a five-tone scale that has no semitones (half-steps), i.e., C D F G A C. By using each tone as a tonic, five different scales can be derived from these tones, e.g., C D F G A C, D F G A C D, F G A C D F, G A C D F G, and A C D F G A. The semitonal pentatonic scale results from omitting specific tones of the diatonic scale. The tones omitted are the fourth and sixth tones or the second and fifth tones: (1) C D E G B C or (2) C E F A B C, respectively. The Javanese slendro (sometimes called "pentaphonic") is a pentatonic scale with equidistant steps requiring special tuning procedures.¹

Schuller suggested the existence and use of the African ("blues") pentatonic scale as a superimposition on the European diatonic scale.² The tonal combinations contained in the African pentatonic scales are characterized by five-tone octaves, e.g., (1) C D E⁰ B G E⁰, (2) C E⁰ F G A, and (3) C D E G A.³

Pentatonic scales can be structured in various pitch sequences. The following examples display the pentatonic scales selected for use in this introductory text. These selected structures include the tonal pentatonic scales,

²Schuller, Early Jazz, p. 47.
semitonal pentatonic scales, and the African pentatonic scales which will be referred to as the "blues" pentatonic scales.

The first tone (1) in each initial measure of each scale choice should be regarded as the tonic or key-note, and should correspond to the appropriate letter-name of the key. The following examples offer a visual display of the pentatonic scale structures emphasized in the above discussion. The intervallic relationships between each tone (whole- and half-steps) are excluded from these examples.

Example 36.

Example 37.
The procedures used for transposing modal and pentatonic scales to various major keys will be given in a later discussion in this text. In the previous discussions, chord types and their appropriate chord symbols provided the performer with a vertical perspective of various harmonic structures that are used in jazz. A horizontal or linear perspective of different scale types (e.g., tonal, modal, and pentatonic) used in jazz were reviewed since they represent an important scalar repertoire for building melodic foundations and developing theoretical and technical facility. The application of scalar resources to chord structures represents an important technique in the process of jazz improvisation. The following chord-scale catalogue is a charted summary of sixth and seventh chord types in
root position, with the appropriate scale types that can be considered melodically adaptable to these chords. This catalogue should be used by the performer for quick reference when confronted with scale selection during a jazz improvisation performance.

**Chord-Scale-Catalogue**

<table>
<thead>
<tr>
<th>Chord Type</th>
<th>Chord Symbol</th>
<th>Scale-Type Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Seventh</td>
<td>M7</td>
<td>Major; Ionian and Lydian Modes; Tonal Pentatonic; Semitonal Pentatonic (1) and (2)</td>
</tr>
<tr>
<td>Major Sixth</td>
<td>M6</td>
<td>Major; Ionian and Lydian Modes; Blues Pentatonic (3)</td>
</tr>
<tr>
<td>Minor Sixth</td>
<td>m6</td>
<td>Melodic Minor (ascending); Dorian Mode; Blues Pentatonic (2)</td>
</tr>
<tr>
<td>Minor Seventh (with major seventh)</td>
<td>m#7 or m7</td>
<td>Melodic Minor (ascending); Harmonic Minor</td>
</tr>
<tr>
<td>Minor Seventh</td>
<td>m7</td>
<td>Dorian, Phrygian, and Aeolian Modes; Blues Pentatonic (1)</td>
</tr>
<tr>
<td>Dominant Seventh</td>
<td>7</td>
<td>Mixolydian Mode; Blues Pentatonic (2)</td>
</tr>
<tr>
<td>Dominant Seventh (with augmented fifth)</td>
<td>7 +5</td>
<td>Whole-tone</td>
</tr>
<tr>
<td>Dominant Seventh (with diminished fifth)</td>
<td>7 b5</td>
<td>Whole-tone</td>
</tr>
<tr>
<td>Diminished Seventh</td>
<td>ø7</td>
<td>Diminished</td>
</tr>
<tr>
<td>Half-Diminished Seventh</td>
<td>ø7</td>
<td>Half-Diminished; Locrian Mode</td>
</tr>
<tr>
<td>Diminished Seventh (with major seventh)</td>
<td>ø#7 or ø7</td>
<td>Diminished</td>
</tr>
<tr>
<td>Major Seventh (with diminished fifth)</td>
<td>7 Mb5</td>
<td>Lydian Mode</td>
</tr>
</tbody>
</table>
Evaluated Exercises

1. Using music manuscript paper, spell the following seventh and sixth chords by writing the appropriate chord tones for each of the following chord symbols. These chord types follow the order that is presented in the Chord-Scale-Catalogue. (Note: The C#, Cb and F# chords have been omitted since they are enharmonic to the Db, B, and Gb chords, respectively.)


   b. Major sixth (M6): CM6, FM6, EbM6, AbM6, DbM6, GbM6, GbM6, AM6, DM6, GM6.

   c. Minor sixth (m6): Cm6, Fm6, BbM6, Ebm6, Abm6, Dbm6, Gbm6, Bm6, Em6, Am6, Dm6, Gm6.

   d. Minor seventh, with major seventh (m#7 or m 7): Cm7, Fm7, Bbm7, Ebm7, Abm7, Dbm7, Gbm7, Bm7, Em7, Am7, Dm7, Gm7.

   e. Minor seventh (m7): Cm7, Fm7, Bbm7, Ebm7, Abm7, Dbm7, Gbm7, Bm7, Em7, Am7, Dm7, Gm7.

   f. Dominant seventh (7): C7, F7, Bb7, Eb7, Ab7, Db7, Gb7, B7, E7, A7, D7, G7.

   g. Dominant seventh, with augmented fifth (+5): C+5, F+5, Bb+5, Eb+5, Ab+5, Db+5, Gb+5, B+5, E+5, A+5, D+5, G+5.

   h. Dominant seventh, with diminished fifth (b5): Cb5, Fb5, Bbb5, Eb5, Ab5, Db5, Gb5, Bb5, Cb5, Fb5, Eb5, Dbb5, Gbb5, Bb5, Eb5, Ab5, Db5, Gb5.

   i. Diminished seventh (o7): Co7, Fo7, Bb7, Eb7, Ab7, Db7, Gb7, Bo7, Eo7, Ao7, Do7, Go7.


   k. Diminished seventh, with major seventh (o#7 or o7): Co7, Fo7, Bbø7, Ebø7, Abø7, Dbø7, Gbø7, Bo#7, Eo#7, Ao#7, Do#7, Go#7.
1. Major seventh, with diminished fifth (Mb5):
   \[ CMb5, FMb5, BbMb5, EbMb5, AbMb5, DbMb5, \\
   GbMb5, BbMb5, Emb5, Ab5, Dmb5, Gmb5. \]

2. Play each of the chord types listed in Exercise Number 1 in an arpeggiated manner, spanning one octave. The performer should either slur the chord tones or use the legato style for tonguing each tone. Play through each chord-type sequence (a., b., c., etc.) at a slow tempo gradually increasing the tempo as familiarity becomes the rule rather than the exception.

3. Write the different scale types listed in the Chord-Scale-Catalogue; then, play each scale type, applying them to the chord symbols given in Exercise Number 1.

4. Write the appropriate chord tones and accompanying scale types that comply with the following chord progression.

\[
\begin{align*}
&CM7 & F7 & CM7 & C7 \\
&F7 & F7 & CM7 & CM7 \\
&G7 & G7 & CM7 & CM7
\end{align*}
\]

5. Upon completion of Exercise Number 4, play the chords in an arpeggiated manner and the scale types that were suggested as suitable choices for these chords.

**NOTE:** All chord and scale types should be committed to memory with regard to both theoretical and performance practice.
Blues Fundamentals

The principal sources of the blues appear to be Negro work songs and spirituals. Throughout the development of jazz, the blues has been sung and played in every era displaying a diversity of stylistic interpretations.\(^1\) Significant insight regarding the early development of the blues was offered by Schuller, who stated:

During the earliest merging of African and European music, Negro slaves sang sad songs that served to describe their extreme suffering and hardships. Prior to the Civil War, these songs of depression and sadness did not appear to exhibit any definite form except for repetition, usually in the opening stanzas of each lyric group. The singing was in unison without specified chordal accompaniment. After the Civil War, the fusion of African and European music influenced the development of the eight-bar, twelve-bar, and sixteen-bar blues forms. By World War I, the twelve-bar blues construction had become an accepted form and was established as a set form of harmonic progression.\(^2\)

The blues form most frequently utilized in contemporary jazz improvisation appears to be the twelve-bar blues. The twelve-bar blues contains a set progression of harmonies in a particular tonality (key), for example: IM\(^7\), IV\(^7\), IM\(^7\), I\(^7\), IV\(^7\), IM\(^7\), IM\(^7\), IIm\(^7\), V\(^7\), IM\(^7\), IM\(^7\) (each Roman numeral indicates a chord built on a specific scale-tone). Additional twelve-bar harmonic progressions will be discussed later in this text.

Blue Scale-tones

Another musical characteristic associated with the blues is the use of blue scale-tones (blue notes) in jazz

\(^1\)Tanner and Gerow, *A Study of Jazz*, p. 28.

improvisation. Stearns reported that "blue scale-tones were originated with the West Africans in their search for comparative tones not included in their (tonal) pentatonic scale of C D F B A C."¹ This particular pentatonic scale has neither the third and seventh tones nor the lowered third and lowered seventh tones found in the Western diatonic and chromatic scales. Consequently, when they attempted to imitate either of these tones the resulting tone was sounded midway between the tones E-flat and E-natural, and between B-flat and B-natural. The tones resulting from this technique have been described as blue tonality or blue notes.²

The earlier review of various scale structures has pointed to scalic resources deemed necessary for a melodic foundation upon which the jazz improviser might rely. There are other jazz scales that are relevant to harmonic progressions used in blues. Jazz improvisers will frequently take melodic liberties by adding certain altered tones to the major or minor scales, or by sometimes substituting particular scale-tones with altered tones. The following letter-name sequences represent a variety of scale structures used for improvising from blues harmonies. Using C as the tonal center, they are:

1. C D Eᵇ F G A Bᵇ C (same as Dorian Mode)
2. C D Eᵇ F♯ G Bᵇ C

3. C D Eb F# G A Bb C
4. C Db E F Gb A Bb C
5. C Db E F# G Ab B C
6. C Db E F# G A Bb C
7. C Db E F G A Bb B C
8. C Db E F F# G A Bb B C

It should be noted that the scales listed above are often employed in blues, with the scale choice of the improviser determined by the prescribed harmonies and their relationship to various melodic materials. The consensus of opinion among those who write about jazz is that the use of blues scales was important to the early development of jazz and apparently has continued to be a melodic aspect that is essential to each developmental era in jazz history. The ensuing discussion is concerned with the use of scale sequences seven (7) and eight (8) listed above.

**Twelve-Measure Harmonic Progressions**

A visual perspective of the scale-tones listed as blues scale number seven (7) is provided for demonstrating scalic relationships to various twelve-measure harmonies frequently employed in a contemporary setting of the blues. The example below is one of the basic harmonic patterns used in blues. Note that the seventh chords are suited to the scale-tones contained in blues scale number seven (7) listed above; in addition, other

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1Tanner and Gerow, *A Study of Jazz*, p. 32.
accompanying scales are given in the Chord-Scale-Catalogue.

Example 39.

The melodic materials in jazz improvisation should be initially derived from the chord-tones found in each harmonic progression structure. The appropriate chord-tones should be expanded into the scalic sequence which appropriately relates to each chord structure in the progression. For instance, the C major scale would be more applicable to the CM7 (major seventh) chord. The more important tones to be melodically emphasized on the CM7 would be C, E, G, and B, whereas the related tones (melodic joiners)¹ would be D, F, and A. The F7, C7, and G7 are dominant seventh chords and require the use of the Mixolydian Mode. (Note: The F7 and C7 utilize a minor seventh interval above their respective root-notes; these tones do not conform to either the C major scale or the key of C major; instead, they use the flatted third and flatted seventh of the blues scale (7) built on C.) The Dm7 is a minor seventh chord requiring the use of the Dorian Mode on D. The following example illustrates the blues progression given in Example 39, with

¹Coker, Improvising Jazz, p. 7.
the appropriate accompanying scales.

Example 40.

At this point, it would be most helpful for the performer to play Example 40 in all of the other major keys (i.e., F, B♭, E♭, A♭, D♭, G♭, B, E, A, D, G). Examples of the twelve-bar blues progression in F major and in G major are as follows:

Example 41.
Progression Substitutes

The blues chord progression provided in the discussion above represents one of the more basic progression patterns used in a contemporary jazz setting. During any improvisatory jazz performance, the improviser should be cognizant of the implied chord progressions that are played on the chord-producing instruments, e.g., the keyboard and stringed instruments of the rhythm section. The improviser does not always have the
privilege of being informed of the harmonies used in a specified blues progression. Many times the performers on chord-producing instruments may choose to substitute some of these prescribed chord structures with other chords. Usually the chord substitute may be one that is harmonically related to the initially prescribed chord. "The term chord substitution refers to the replacement of one chord by another chord which is closely related harmonically. Chord substitution is a significant aspect of jazz performance."

The use of chord substitutes in a blues harmonic progression liberates the improviser from what might be described as a relatively static harmonic progression. Chord substitutions that are added to a prescribed blues progression should effect the following: (1) additional harmonic colors, (2) supplementary sources of harmony from which new melodic materials may be created, and (3) greater variety in delaying the more conventional harmonic cadences found in blues progressions similar to the one listed above.

The blues chord progression provided in Example 40 is one of several chord progressions that can be utilized when improvising the blues. The ability of the performer to improvise from this basic blues harmonic pattern represents an important skill in jazz improvisation. When the performer is confronted with improvising from the various blues chord progressions, a familiarity with chordal substitutes is important.

1Konowitz, Jazz Improvisation at the Piano, p. 201.
for attaining melodic variety in the jazz improvisatory process. A few of the more frequently employed blues chord progressions that utilize substitute harmonies are listed below. These substitute chord progressions to the blues are set in the key of C major, although the performer should practice these progressions in all major keys.

Example 43a.

\[
\begin{array}{cccc}
CM7 & F7 & CM7 & C7 \\
\end{array}
\]

\[
\begin{array}{cccc}
FM7 & F7 & CM7 & CM7 \\
\end{array}
\]

\[
\begin{array}{cccc}
FM7 & G7 & CM7 & CM7 \\
\end{array}
\]

Example 43b.

\[
\begin{array}{cccc}
CM7 & F7 & CM7 & Gm7 & C7 \\
\end{array}
\]

\[
\begin{array}{cccc}
F7 & F^7 & CM7 & A7 \\
\end{array}
\]

\[
\begin{array}{cccc}
Dm7 & G7 & CM7 & CM7 \\
\end{array}
\]
Example 43c.

\[ CM7 \quad F7 \quad CM7 \quad Gm7 \quad C7 \]

\[ FM7 \quad Fm7 \quad E_{m7} \quad A7 \]

\[ Dm7 \quad G7 \quad CM7 \quad CM7 \]

Example 43d.

\[ CM7 \quad Dm7 \quad Eb_{o7} \quad E_{m7} \quad Gm7 \quad C7 \]

\[ FM7 \quad Fm7 \quad B_{b7} \quad E_{m7} \quad E_{b-m7} \]

\[ Dm7 \quad G7 \quad CM7 \quad CM7 \]

Example 43e.

\[ CM7 \quad B_{b7} \quad E_{7} \quad A_{m7} \quad D_{7} \quad Gm7 \quad C7 \]

\[ FM7 \quad Fm7 \quad B_{b7} \quad E_{b-M7} \quad E_{b-m7} \quad A_{b7} \]

\[ Dm7 \quad G7 \quad CM7 \quad CM7 \]
Suggested Models

The blues chord progressions shown in Examples 40 and 43 should be memorized by the performer. The performer should notate and play each chord symbol in an arpeggiated manner and apply the appropriate accompanying scale to each chord. Following the completion of the above projects, the performer should play each of the following improvisatory models illustrated in Example 44. Six blues chord progressions are used in these developmental models with accents provided for illustrating rhythmic nuances used in the jazz improvisatory style. It is most important for the performer to review the stylistic articulations suggested earlier in this text. Prior to playing each of the models, the performer should observe the previous progressions and determine which chords have been substituted.

Example 44a.
Example 44b.

\[
\begin{align*}
&CM7 & F7 & CM7 \\
&\begin{array}{c}
C7 \\
CM7 & CM7 & FM7 \\
G7 \\
\end{array} & \begin{array}{c}
CM7 \\
Gm7 & C7 & F7 & F7^6 \\
CM7 & A7 & Dm7 \\
G7 \\
\end{array} \\
\end{align*}
\]
Example 44d.

\begin{music}
\begin{footnotesize}
\begin{music}
\begin{footnotesize}
C M 7 & F 7 & C M 7 \\
\end{music}
\end{footnotesize}
G m 7 & C 7 & F M 7 & F m 7 \\
\end{music}
\end{footnotesize}
E m 7 & A 7 & D m 7 \\
\end{music}
G 7
\end{music}
\end{footnotesize}
\end{music}

Example 44e.

\begin{music}
\begin{footnotesize}
\begin{music}
\begin{footnotesize}
C M 7 & D m 7 & E b 7 & E m 7 \\
\end{music}
\end{footnotesize}
G m 7 & C 7 & F M 7 & F m 7 & B b 7 \\
\end{music}
\end{footnotesize}
\end{music}
\end{footnotesize}
\end{music}

\begin{music}
\begin{footnotesize}
\begin{music}
\begin{footnotesize}
E m 7 & E b m 7 & D m 7 \\
\end{music}
\end{footnotesize}
G 7
\end{music}
\end{footnotesize}
\end{music}
\end{footnotesize}
**Example 44f.**

![Musical notation]

**Evalative Exercises**

1. Write and play the appropriate accompanying scales to the blues chord progressions in the major keys of F, Bb, Eb, Ab, G, D, and A using the harmonic pattern shown in Examples 39 and 40.

2. Memorize the blues chord progressions listed in Examples 43a through 43e; write these progressions in the major keys prescribed above, playing the chord tones and scales that are appropriate for each chord.

3. Play the melodic material in each of the chord progressions listed in Example 44. From this melodic and rhythmic format, write a minimum of three different melodic and rhythmic examples that conform to the chord progressions listed in Examples 44a through 44f. Play each of the newly developed melodic and rhythmic sequences and transpose them to the major keys prescribed above.

4. From the motifs that have been compiled so far, mix as many different motifs as possible and play these combinations within the harmonic framework of the various blues patterns listed above.
5. Secure and listen to various recordings that feature the following noted jazz performers.

a. Charlie Parker
b. Lester Young
c. Miles Davis (prior to c. 1962)
d. Louis Armstrong
e. Charlie Mariano
f. Freddie Hubbard
g. Don Fagerquist
h. Jack Sheldon
i. Conte Candoli
j. Clark Terry
k. Blue Mitchell
l. Nat Adderly
m. Julian Adderly
n. Dizzy Gillespie
o. Thad Jones
p. Marvin Stamm
q. Clifford Brown

Recommended Recordings:

Capital Jazz Classics, Capitol Records, 10 vols.

The Jazz Story, Capitol Records, 5 vols., W2137-2141.

Three Decades of Jazz, Blue Note Records, 3 vols., BST-89902-4.


Encyclopedia of Jazz on Records, Decca Records, DX5F-7140.

History of Classic Jazz, Riverside Records, 10 vols., SDP-11.
SPECIFIC FUNDAMENTALS AND TECHNIQUES

Pentatonic Concepts

Tonal Relationships to Blues Harmonies

The use of pentatonic scales in musical improvisation does not appear to be an innovative technique of the twentieth century. Apel cited the tonal pentatonic scale (see Example 36) as one which occurs in the music of nearly all ancient cultures such as China, Polynesia, Korea, and Africa, as well as that of the American Indians. A considerable number of Gregorian chants use five scale-tones while others may have been expanded from a scale structure that was originally pentatonic.¹ The traditional music of contemporary China, Japan, Java, Africa, and countries of the Far East uses pentatonic scales for the tonal basis of much of their music. Pentatonic scales are used also in the folksong literature of European countries such as Hungary, Ireland, and Scotland.²

A contemporary application of the pentatonic scale is found in the teaching method attributed to Carl Orff. Orff's Music for Children is designed to provide elementary students an opportunity for self-expression and creativity through

²Westrup and Harrison, New College Encyclopedia of Music, p. 493.
improvisatory activities. The starting point in this method is rhythm, which is treated as an outgrowth of speech patterns and motor movements. The melodic material in this method is built around the pentatonic scale using the tones C, D, E, G, and A. Orff employs pentatonic melodies in this method since cadential harmony is not implied and these melodies would allow students to improvise while participating in musical activities that foster self-discovery and self-expression.¹

Pentatonic scale-tones may also be applied to the development of jazz improvisation. The melodic formulae resulting from the various pentatonic scale structures offer the performer a particular advantage in selecting the tones related to improvising from the blues harmonies illustrated earlier in this text. The pentatonic scales contain five different tones, whereas the other scales illustrated in this text contain seven or more different tones. Therefore, the performer has a fewer number of tones to select from when applying a pentatonic scale sequence to a blues chord progression.

The essence ascribed to such a jazz improvisatory procedure would appear to be the performer's ability to select the appropriate pentatonic scale which best suits the assorted blues chords used in a blues progression. For example, a

pentatonic scale containing the tones C, D, E, G, and A would be more acceptably applicable to the C6 chord, while in that same regard, the C, D, E♭, G, and B♭ would apply to the Cm7 chord. Using the blues chord progression given in Example 44a, the following pentatonic scales are cited as tonally-related scale structures that are adaptable to improvisatory blues passages. The pentatonic scales that appropriately relate to these particular blues chords are: C D E G B (semitonal pentatonic-1) applies to the GM7 chord; C E♭ F G A (blues pentatonic-2) applies to the F7 chord; C D E G B♭ (semitonal pentatonic-1, with flatted seventh) applies to the C7 chord; D F G A C (tonal pentatonic) applies to the Dm7 chord; and D F G A B (transposed blues pentatonic-2) applies to the G7 chord. The examples below also provide a visual perspective of blues chord progressions in the tonality of C major with the melodic combinations adhering to pentatonic patterns and their melodic usage. The performer should play each notated sequence in four-measure sequences and then transpose these examples to other major tonalities such as the blues in F major, B♭ major, E♭ major, and G major. The performer should remember that the pentatonic scales used in the C major blues must be transposed in order that these scales conform to the new tonality. The pentatonic scale spelled C D E G B in C major would be spelled F G A C E in the transposed key of F major.
Example 45a.

Example 45b.
Example 45c.

\[ \text{Example 45d.} \]

\[ \text{Example 45d.} \]
Suggested Models

The formulation and application of contrasting rhythm patterns to the pentatonic scales given in Examples 45a-45d should be practiced continually. The examples listed below use contrasting rhythm patterns for providing added improvisatory variety. Regardless of the simplicity of an improvised melody, rhythmic variety remains essential. The following jazz improvisations should provide the inexperienced performer with original improvisatory models that are derived from the pentatonic scales cited above. The performer should utilize these models as a point of departure for future individual development in jazz improvisation.

Example 46a.
Example 46b.

Example 46c.
Evaluative Exercises

1. Study Examples 45a through 45d and determine which of the above pentatonic scale types were used for the chord structures in each progression sequence.

2. Transpose the twelve-bar blues progression given in Example 45a to the major keys of F, B♭, E♭, A♭, G, D, and A; then write the appropriate pentatonic scales for the chords contained in each of the transposed chord progressions listed above; play each pentatonic scale written in these various major keys.

3. Play the pentatonic scales resulting from the instructions given in Evaluative Exercise 2 listed above.

4. The improvisation models illustrated in Examples 46a through 46c should be played as written; then play each model in each major key listed in Evaluative Exercise 2.

5. Expand the improvisations given in Examples 46a through 46c by formulating and applying new rhythm patterns and by changing the order of the tones given in each measure.

Modal Concepts

Transposition Procedures

The importance and use of the authentic church modes in jazz improvisation were cited earlier in this text. The modes represent a source of scalic materials "beyond the arbitrary limitations of the major-minor system and have proved to be a veritable gold mine from which contemporary composers"¹ as well as jazz improvisers might create melodic and harmonic structures. The exploitation of modal scales can be used in

various harmonic progressions in an improvisatory performance of jazz.

One of the principal uses of modal scales occurs in the blues harmonic progressions. The Chord-Scale-Catalogue, cited earlier in this text, gives the appropriate modal scales used for improvising from different chord structures, including those incorporated in blues chord progressions. A careful observation of the modal scales illustrated in Examples 46a through 46c will substantiate the Ionian and Aeolian modes being constructed the same as the major and the natural (pure) minor scales, respectively. "The remaining authentic modes are constructed similarly to the Ionian and Aeolian modes with one scale-tone altered, except for the Locrian mode which has two altered scale-tones."¹

The performer should be mindful that, although the church modes were not derived from the major and minor scales, jazz improvisers will often relate the modes to a major or minor key. This modal-tonal relationship might result from the improviser's study of traditional (tertian) harmonies predominating in the seventeenth, eighteenth, and nineteenth centuries. "The distinctive feature of the modes appears to be the individual scale-tone deviation from the major and minor scale patterns."² In a previous discussion, the modal scales

¹Dallin, Techniques of Twentieth Century Composition, p. 19.
²Ibid., p. 20.
were illustrated with each half-step (semitone) indicated in each structure.

The following chart illustrates the deviation of each mode from major and minor scales and should confirm the suggested procedures for mode construction given in the review of scale-types:

- **Ionian Mode** = Like major scale
- **Dorian Mode** = Like natural minor scale with the sixth degree raised
- **Phrygian Mode** = Like natural minor scale with the second degree lowered
- **Lydian Mode** = Like major scale with the fourth degree raised
- **Mixolydian Mode** = Like major scale with the seventh degree lowered
- **Aeolian Mode** = Like natural minor scale
- **Locrian Mode** = Like natural minor scale with the second and fifth degrees lowered

All of the modes may be transposed to any scale degree by using the appropriate key signature in the same manner as major and minor are transposed. The appropriate key signature for a mode or modal scale would be effected by determining what flats or sharps may be necessary to produce half-steps in the desired scale-tone positions. This particular procedure suggests that the performer should determine the relationship of the untransposed mode to C major.¹ For example, the Dorian

¹Dallin, *Techniques of Twentieth Century Composition*, p. 21.
mode is built from the second scale degree of a major scale and
the key signature of that major scale would apply to the Dorian
mode. For example, the Dorian mode on D is derived from the
major scale and key signature of C major; subsequently, the
Dorian mode on G is derived from the major scale and key of F.

In this text, an "open" key signature in which no accidentals are indicated is occasionally used for modal improvisation in jazz. The open key signature requires that the improviser add appropriate accidentals to the specified mode during the improvisatory performance. The "open" procedure would be employed if the improviser was directed to use the Dorian mode on D and the Mixolydian mode on D within the same improvisatory framework. The D Dorian scale would be spelled D E F G A B C D,
whereas D Mixolydian scale would be spelled D E F# G A B C D.¹
An example of an open key signature improvisation is illustrated in a subsequent section entitled Suggested Models.

The following examples illustrate the transpositions of the seven authentic church modes using the key signature of B-flat major. Notice that the Ionian mode is built from the tonic note and results in a B-flat major scale; the Dorian mode is built from the second scale-degree; the Phrygian mode is built from the third scale-degree; and the Lydian mode from the fourth scale-degree. The Mixolydian, Aeolian, and Locrian modes are built respectively on the remaining scale-degrees

¹Dallin, Techniques of Twentieth Century Composition, p. 21.
of the B-flat major scale.

Example 47a. (Ionian)  
Example 47e. (Mixolydian)

Example 47b. (Dorian)  
Example 47f. (Aeolian)

Example 47c. (Phrygian)  
Example 47g. (Locrian)

Example 47d. (Lydian)

From the modal transposition procedures illustrated above, write the church modes related to the remaining major key signatures, such as the modes transposed to F major as given in the example below.

Example 48a. (Ionian)  
Example 48b. (Dorian)
Thematic Concepts and Harmonies

Seventh chord harmonies can be constructed from the various modal scale-tones by employing the same procedures used for constructing seventh chord harmonies on major scale tones.¹ In the modal key of G Dorian, the tones of the G Dorian scale are used with a key signature of one flat. For example, the Dorian scale uses the major key signature of the tone found one whole-step (M2nd) below the tone assigned to the Dorian mode. Consequently, the D Dorian scale would use the key signature of C major and the F Dorian scale would use the key signature of E-flat major. The Phrygian key would use the major key signature of the tone found an M3rd below the tone assigned to the Phrygian mode. The Lydian key would use the

major key signature found a P4th below, the Mixolydian a P5th below, the Aeolian an M6th below, and the Locrian key signature an M7th below. The following examples illustrate modal scales and their key signatures with seventh chord harmonies constructed above the scale-tones.

Example 49a. (G Dorian Scale - 1 flat)

Example 49b. (A Phrygian Scale - 1 flat)

Example 49c. (Eb Lydian Scale - 2 flats)

Example 49d. (F Mixolydian Scale - 2 flats)

Example 49e. (E Aeolian Scale - 1 sharp)

Example 49f. (C# Locrian Scale - 2 sharps)
In an earlier discussion of blues harmonies the Ionian (major) mode was projected as the modal scale choice representing the tonic chord of the prescribed key signature. An arbitrary use of those blues harmonies established the tonic of the derived scale. In modal harmonies the more desirable procedure would be to establish a modal scale center other than the Ionian mode. For instance, improvisatory chord progressions based on the Dorian mode should continually re-establish the Dorian mode as the tonic and this same procedure must be followed by the improver. There are three ways to maintain the tonic in modal progressions: (1) Use the chord built on the first scale-degree of the foundation mode as the first and last chord of the progression; (2) Use this tonic chord frequently; and (3) Support the tonic chord with the IV and V chords of the modal key through frequent use since the IV and V chords tend to substantiate the I chord. An example of a modal progression using the I, IV, and V seventh-chords in the key of G Dorian (one flat) is as follows:

Example 50.
The chord progression illustrated in Example 50 suggests the application of specific modal scales for the various harmonic structures in the Dorian key. The G Dorian scale would be used for the Gm7 (I), the C Mixolydian scale would be used for the C7 (IV), and the D Aeolian scale would be used for the Dm7 (V). It should be noted that all three of these modal scales conformed to the key signature using one flat. The following example illustrates thematic sequences derived from the modal scales listed above.

Example 51a.
Example 51b.

An example of a chord progression based on the C Aeolian scale would be as follows:

Example 52.
Suggested Models

The following jazz improvisations incorporate many of the modal concepts presented in this text. A limited variety of rhythm patterns is used, while the primary emphasis is placed on the improvisatory use of modal scale-tones. The first example illustrates the use of modal scale-tones over a blues chord progression and the other two examples illustrate modal improvisations over modal chord progressions. The modal scales used in these improvisatory models conform to the scale choices listed in the Chord-Scale Catalogue.

Example 53a.
Example 53b.

Example 53c.
**Evaluative Exercises**

1. Write modal scales that are applicable to various blues chord progressions listed in the review of blues fundamentals.

2. Play each of the melodic scale sequences cited in the exercise above. Begin each chord progression at a slow tempo and gradually increase the speed with the repetition of each progression.

3. Write and play the complete transpositions listed in Examples 46a through 46c.

4. After acquiring a thorough playing knowledge of the improvisatory models illustrated above, the performer should formulate several additional modal progressions. Play various melodic and rhythmic variations that relate to these progressions. (Note: Except for progressions based upon the Ionian and Lydian modes, the performer should not include the major seventh chord in any of the above modal chord progressions.)

**Twelve-Tone Concepts**

**Row Construction Principles**

The use of twelve-tone procedures in jazz is yet another improvisatory alternative. One of the first twelve-tone jazz compositions to provide improvisatory solos was "Concerto for Jazz Band and Symphony Orchestra" by Rolf Liebermann.¹ This composition is based on a twelve-tone row and has specified movements in which improvisatory solos are suggested for the E-flat alto saxophone and the B-flat soprano trumpet. These solos are written out thereby denying the players any improvisatory creativeness. The twelve-tone technique is predicated

upon the adoption of a prescribed succession of the twelve-tones found in the Western chromatic scale. That succession, which requires only that all the tones are used and that none is repeated until the tone-row has been completed, is called a twelve-tone "row" ("series" and "set" are often used synonymously with "row"). The following example illustrates the construction of a twelve-tone row using melodic intervals of fourths and fifths.

Example 54.

There are other basic considerations regarding row construction that have been emphasized by those who use the twelve-tone technique. One structural principle is that the row should avoid melodic patterns that would be suggestive of more traditional styles. Triad outlines are avoided as they are suggestive of tertian harmonic practice. Also, care should be taken to avoid scale formations such as those found in major and minor keys. Additionally, intervals that would set up strong tonal centers should be avoided. The following example illustrates the construction of row or series as described above.


Another structural principle of row construction is that the tone-row can be constructed so as to include major and minor triads. A noted example of this row construction principle was used by Alban Berg in his "Concerto for Violin and Orchestra" and is illustrated in the example below. Chords that have been derived from this tone-row are given as an improvisatory background that can be played by chord-producing instruments such as piano and guitar.

Example 56.

There are four basic ways that a tone-row can be manipulated. They are as follows:

1. The order of the initial row, which is called the original or prime is reversed, producing a version called the retrograde. (See Example 57.)

2. The original tone-row may be presented with its intervallic relationships preserved, but with their direction reversed producing a tone-row or series called the original (prime) inversion. (See Example 58.)

3. The retrograde technique may be combined with the original inversion technique producing a tone-row called the retrograde inversion. (See Example 59.)

---

4. Any of the above tone-rows, the original, the original inversion, the retrograde, and the retrograde inversion, may then be transposed to any of eleven other starting notes.

Example 57.

Example 58.

Example 59.

Twelve-Tone Matrix

A diagram of all possible variations of a twelve-tone row would result in what is called a matrix. Letter-names are used to indicate the various pitches contained in the matrix. Using the twelve-tone row given in Example 55, the matrix reproduced on the following page will serve as an illustration.

Improvising from chord symbols serves as the procedural base from which the jazz improviser calculates and ultimately creates melodic sequences from major, minor and modal key centers. Improvisation in twelve-tone jazz uses the twelve-tone matrix from which to derive linear melodies. In using a matrix for improvisatory purposes, the player may choose to start by playing upwards, downwards, to the right, or to the
Twelve-Tone Matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>1</td>
<td>C</td>
<td>Db</td>
<td>Gb</td>
<td>G</td>
<td>D</td>
<td>Ab</td>
<td>Eb</td>
<td>Bb</td>
<td>A</td>
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<td>B</td>
<td>C</td>
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<td>Gb</td>
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<td>Bb</td>
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<tr>
<td>3</td>
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<td>Bb</td>
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<td>Bb</td>
<td>B</td>
<td>E</td>
<td>F</td>
<td>C</td>
<td>Gb</td>
<td>Db</td>
<td>Ab</td>
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<td>D</td>
<td>A</td>
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<td>6</td>
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<td>F</td>
<td>Bb</td>
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<td>Gb</td>
<td>C</td>
<td>G</td>
<td>D</td>
<td>Db</td>
<td>A</td>
<td>Ab</td>
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<td>F</td>
<td>C</td>
<td>G</td>
<td>Gb</td>
<td>D</td>
<td>Db</td>
<td>Ab</td>
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<td>8</td>
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<td>Ab</td>
<td>A</td>
<td>E</td>
<td>Bb</td>
<td>F</td>
<td>C</td>
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<td>G</td>
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<td>Bb</td>
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<td>B</td>
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<td>Db</td>
<td>C</td>
<td>Ab</td>
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<td>D</td>
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<td>10</td>
<td>G</td>
<td>Ab</td>
<td>Db</td>
<td>D</td>
<td>A</td>
<td>Eb</td>
<td>Bb</td>
<td>F</td>
<td>E</td>
<td>C</td>
<td>B</td>
<td>Gb</td>
</tr>
<tr>
<td>11</td>
<td>Ab</td>
<td>A</td>
<td>D</td>
<td>Eb</td>
<td>Bb</td>
<td>E</td>
<td>B</td>
<td>Gb</td>
<td>F</td>
<td>Db</td>
<td>C</td>
<td>G</td>
</tr>
<tr>
<td>12</td>
<td>Db</td>
<td>D</td>
<td>G</td>
<td>Ab</td>
<td>Eb</td>
<td>A</td>
<td>E</td>
<td>B</td>
<td>Bb</td>
<td>Gb</td>
<td>F</td>
<td>C</td>
</tr>
</tbody>
</table>

left of the matrix. After completing one realization of all twelve tones in their prescribed linear order, the player may freely choose another point of departure. For example, the following improvisation uses the tone-rows I₁ (right) and I₂ (down) from the matrix listed above. This process may be repeated as many times as is necessary to finish the piece or the number of measures prescribed for the improvisation.

Example 60.

The point of departure is determined by the visual contact of the improviser. That is, the improviser must make the following decision at the moment when the player's eye makes this visual contact with one of the letter-names in the matrix. After completing the initial tone-row selection, the improviser must choose a different tone-row and decide instantaneously which of the four directions is to be adopted during the proceeding portion of the improvisation.

The notes listed in a matrix admit freely of octave
displacement and in no way represent a particular register. Therefore, the performer is allowed yet another option that the twelve-tone technique admits.

From a rhythmic standpoint the options are not restricted to any preconceived patterns. Any rhythm may be freely adopted to the melodic series determined by the matrix. Although rhythmic freedom and repetition are allowed, the performer must be constantly aware of metric stipulations and phraseology that may be prescribed in various musical compositions. These non-restrictive procedures would apply to improvising from a twelve-tone chord progression using the twelve-tone matrix for effecting melodic formulae.

The following example illustrates rhythm patterns that can be used in an improvisatory performance of jazz.

Example 61.

The application of these rhythm patterns to the matrix could result in various realizations. For example, using line 3 (I) in the matrix, reading from right to left, which would constitute a transposed retrograde of the original (P) row, the following improvisations might result:
Example 62a.

Example 62b.

Example 62c.

Example 62d.
Suggested Models

The following improvisatory models illustrate the strict melodic adherence to guidelines regarding twelve-tone row construction and matrix improvisation. The original row (P) and its permutations are derived from the matrix shown on page 117. The first model illustrates an improvisation using the original (P), inversion (I), retrograde (R), and retrograde inversion (RI) over a blues chord progression that is not derived from the rows above. The second model illustrates an improvisation using other tone-rows from the matrix above:

Example 63a.
Example 63b.

![Musical notation](image)

**Evaluative Exercises**

1. Using the row construction guidelines listed on pages 115 and 116 write an original tone row (P) and its transpositions, including the inversion (I), retrograde (R), and retrograde inversion (RI).

2. Play the tone rows constructed in the exercise above and apply them to a chord progression derived from each of these tone rows. The rhythms illustrated in Example 61 would be applicable to this improvisation.

3. From the matrix given on page 117, apply the improvisatory guidelines for using a matrix during each developmental practice session. The performer should choose predetermined tone rows from the matrix and coordinate these rows with the rhythm patterns used in Examples 63a and 63b.

4. After repetitiously applying the practice principles listed in Exercise 3 above, the performer should begin choosing tone rows through eye contact only. From this point forward, eye contact determines tone row selection in jazz improvisation from the twelve-tone matrix.
CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Jazz is a style of music indigenous to America which has gained acceptance among noted music educators as a creative performing art. The acceptance of jazz education and performance in the curriculum of institutions of higher learning and secondary schools represents a significant change of attitude toward jazz as an important mode of musical creativity and self-expression. Music educators, having recognized creativity as a prime consideration in the formulation of the total music curriculum, point to jazz improvisation as one means for developing creative musicianship. The proliferation of jazz activities and the growth and development of jazz studies in recent years have produced further evidence of the increasing appeal and interest generated by this form of American music. While the field of music education has been alerted to the relevance of jazz improvisation to musical creativity, there appears to be a serious lack of interest in the scholarly research of basic pedagogical aspects of jazz improvisation. The deficiency of studies in this musical performance area prompted the formulation of the objectives for this research project. These objectives were to:

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(1) formulate and write a textual introduction to jazz improvisation for the B-flat soprano trumpet performer.

(2) identify and review selected rudiments of music considered to be requisite to the study of jazz improvisation.

(3) provide specific musical materials for introducing basic theoretical and performance techniques used for improvising jazz from major and minor harmonies, pentatonic and modal harmonies, and from a selected twelve-tone matrix.

(4) provide the inexperienced jazz trumpeter with sequentially structured exercises that foster improvisatory growth and development.

(5) compose original musical models which are designed to initiate and motivate jazz improvisation.

In order to achieve the objectives listed above, the following steps were taken:

(1) An investigation was made of selected methods for teaching jazz improvisation to the B-flat soprano trumpet performer.

(2) Specific publications and unpublished research projects dealing with the study of jazz improvisation were researched.

(3) A search was made of pedagogical sources that featured instructional techniques and practices used for improvising jazz from a twelve-tone matrix.

(4) A study was made of various books containing etudes that are designed to develop the skills of the jazz improviser.

The outcome of this investigation resulted in the formulation of an introductory text for teaching basic theoretical and performance principles of jazz improvisation to the B-flat soprano trumpet performer. Special emphasis was given to pentatonic and modal improvisation and to fundamentals of jazz
improvisation from a twelve-tone matrix. The examples contained in this text were presented cumulatively with the degree of rhythmic difficulty being limited to eighth-notes. The improvisatory models that were featured in this text were original creations by the author. The improvisatory procedures were presented as introductory guidelines which could be of significant value in the developmental study of jazz improvisation.

Conclusions

The review of the literature and the formulation of the introductory text in this research suggested several conclusions that could be drawn from the study of jazz improvisation. These conclusions are that:

(1) there appeared to be no unpublished research projects dealing with the pedagogical techniques for introducing jazz improvisation to the B-flat soprano trumpet performer.

(2) a study designed for teaching jazz improvisation from a twelve-tone matrix was non-existent prior to this research.

(3) jazz improvisation demands that the performer have a fundamental performing knowledge and understanding of the music theory areas contained in this introductory text.

(4) significant performance skills and techniques could be developed through this study of jazz improvisatory fundamentals.

(5) jazz improvisation provides opportunities for self-expression and the development of one's creative abilities.

(6) a trumpet performer interested in developing improvisatory skills in jazz will find in this text a sufficient amount of challenging work to enhance his chances for success in the field of jazz.
Recommendations

There are other phases of jazz which seem to need scholarly attention. Research studies which could make significant contributions to the study of jazz would be:

(1) a study of electronic devices used by wind and keyboard instruments in jazz performance.

(2) a study for determining the extent of jazz course offerings included in the music curricula of institutions of higher learning for preparing instrumental music teachers.

(3) a survey of undergraduate curricula in institutions of higher learning for determining the extent to which chord symbols are included in the course content of first-year music theory.

(4) a study which would involve the comparison of two research populations: one consisting of students receiving group lessons and another receiving individual lessons using the newly devised text evolved in this study.

(5) a study to determine the feasibility and value of using educational television for teaching jazz improvisatory techniques.

(6) the development of a text for introducing chord-producing instruments to twelve-tone jazz techniques.
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VITA

John W. McCauley, born in Philadelphia, Mississippi, on April 5, 1936, has devoted his life to the field of music as an educator and a performer. While in high school, he was selected as a member of First Chair of America. He participated as first chair trumpeter in various district and state clinics and was a member of the Mississippi Lions All-State Band for two years.

Prior to receiving a degree as Bachelor of Music Education at the University of Mississippi in 1959, he was first trumpeter in both the University of Southern Mississippi and the University of Mississippi bands. He earned the Master of Music Education degree at Mississippi State University in 1965 and the Doctor of Philosophy in Music Education at the Louisiana State University in 1973.

He has served as adjudicator and guest clinician at numerous concert, marching, and jazz band festivals in Mississippi, Tennessee, and Louisiana. As a soloist, he was selected as the Outstanding Jazz Trumpeter at the Mobile Jazz Festival in 1968. He has appeared as guest soloist with various high school and college jazz bands, including the Louisiana State University and the University of Mississippi jazz bands. His performing experiences have been enhanced by playing sessions with such noted jazz instrumentalists as Dr. Tommy Ferguson, Dan Haerle, Roy Burns, Carol Kaye, Dalton Smith, Bob Burgess,
Urbie Green, and Carl Fontana.

His affiliations with professional and honorary music organizations have included the Mississippi Band Directors Association, Mississippi Music Educators Association, Louisiana Band Directors Association, Phi Beta Mu, Phi Mu Alpha Sinfonia, Phi Delta Kappa, the National Association of Jazz Educators, and the Music Educators National Conference.

For nine years, Mr. McCauley taught music on the elementary and secondary levels in the public schools of Mississippi. He developed outstanding bands and was named to Who's Who of American High School Band Directors and selected as a director for the Mississippi Lions All-State Band. He served the Mississippi Band Directors Association as third vice-president, secretary-treasurer, and first vice-president and was elected president for the year 1967 before he decided to begin doctoral work at the Louisiana State University. After completing his course-work, he joined the faculty of Louisiana College in Pineville, where he served for two years as director of the concert and jazz bands and taught courses in music theory and music education.

In 1971, Mr. McCauley accepted a position as Assistant Professor of Music Theory and Assistant Director of Bands at the University of Mississippi. Since the fall of 1972, his teaching has been primarily in the areas of music education, music theory, and jazz studies.
EXAMINATION AND THESIS REPORT

Candidate: John Willys McCauley

Major Field: Music Education

Title of Thesis: "Jazz Improvisation for the B^b Soprano Trumpet: An Introductory Text for Teaching Basic Theoretical and Performance Principals"

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

November 27, 1973