Solo Techniques for Unaccompanied Pizzicato Jazz Double Bass

Larry James Ousley
University of Miami, ousley@bellsouth.net

Follow this and additional works at: https://scholarlyrepository.miami.edu/oa_dissertations

Recommended Citation

This Open access is brought to you for free and open access by the Electronic Theses and Dissertations at Scholarly Repository. It has been accepted for inclusion in Open Access Dissertations by an authorized administrator of Scholarly Repository. For more information, please contact repository.library@miami.edu.
UNIVERSITY OF MIAMI

An essay submitted in partial fulfillment of
the requirements for the degree of
Doctor of Musical Arts

SOLO TECHNIQUES FOR UNACCOMPANIED
PIZZICATO JAZZ DOUBLE BASS

Larry James Ousley, Jr.

Approved:

____________________________________________________________________
Donald Coffman, Chair
Professor of Jazz Bass

Terri Scandura
Dean of the Graduate School

____________________________________________________________________
Whitney Sidener
Professor of Studio Music and Jazz

Rene Gonzalez
Associate Professor of Classical Guitar

____________________________________________________________________
Gary Lindsay
Professor of Studio and Jazz Writing
The purpose of this study was to research and demonstrate various techniques that a double bassist may utilize when performing an unaccompanied solo in a jazz setting. This study primarily focused on pizzicato (plucked) styles and sought to maximize the polyphonic potential of the double bass, which has traditionally been considered a homophonic instrument. This study provides a written, organized approach that illustrates recorded examples and augments private instruction for the double bass. This study offers a vocabulary of techniques comprising chords and intervals that allow the double bassist to accompany oneself. It uses an intervallic approach to determining practical ways of voicing chords and accompanying melodic statements. Specific songs from the standard repertoire were chosen to demonstrate self-accompaniment techniques in the contexts of melodic and harmonic movement. Recorded examples are provided that show how specific bassists successfully used certain techniques in the context of songs. Bassists that were examined include Ray Brown, Niels-Henning Orsted Pedersen, Dave Holland, Charlie Hayden, Ron Carter, Edgar Meyer, Lynn Seaton, and David Friesen.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF EXAMPLES</th>
<th>v</th>
</tr>
</thead>
</table>

## Chapter

1. **INTRODUCTION**
   - Significance of the Study: 4
   - Purpose of the Study: 5
   - Research Questions: 6

2. **LITERATURE REVIEW**
   - Classical Double Bass: 8
   - Jazz Bass: 11
   - Other Instruments in Unaccompanied Styles: 20
   - Recordings to be Used as Sources: 22

3. **METHODOLOGY**
   - Delimitations: 25
   - Description of Method: 27
   - Notation: 28

4. **DOUBLE STOPS**
   - Right Hand Double Stop Technique: 30
   - Non-Transposable Double Stops: 32
   - Transposable Double Stops: 35
5 SINGLE-NOTE ACCOMPANIMENT ......................................................... 44
  Linear Movement and Voice Leading .................................................. 44
  Arpeggiation ...................................................................................... 47
  Scales and Modes .............................................................................. 47

6 APPLICATION OF DOUBLE STOP AND SINGLE-NOTE
  TECHNIQUES TO CHORD PROGRESSIONS ....................................... 49
  Catalogue of Chords .......................................................................... 49
  Common Chord Progressions ............................................................. 56

7 HARMONICS ..................................................................................... 60
  Natural Harmonics ............................................................................. 60
  Artificial Harmonics ......................................................................... 63

8 APPLICATION TO SONGS ................................................................. 66
  “Things Ain’t What They Used To Be” ................................................. 66
  “Alone Together” .............................................................................. 68
  “La Pasionaria” ............................................................................... 71
  “Goodbye Pork Pie Hat” ................................................................. 71
  “Tennessee Waltz” ........................................................................... 72

9 CONCLUSION ................................................................................... 74

LIST OF REFERENCES .......................................................................... 76

APPENDIX: BASS SOLO ARRANGEMENTS .......................................... 80
# LIST OF EXAMPLES

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Intervals using open strings</td>
<td>33</td>
</tr>
<tr>
<td>4.2</td>
<td>Transposable double stop intervals</td>
<td>36</td>
</tr>
<tr>
<td>4.3</td>
<td>Transposable double stop intervals using the thumb</td>
<td>42</td>
</tr>
<tr>
<td>5.1</td>
<td>Seventh to third resolution in C major</td>
<td>46</td>
</tr>
<tr>
<td>6.1</td>
<td>Transposable major chord voicings illustrated in G major</td>
<td>51</td>
</tr>
<tr>
<td>6.2</td>
<td>Transposable minor chord voicings illustrated in G minor</td>
<td>51</td>
</tr>
<tr>
<td>6.3</td>
<td>Transposable dominant chord voicings illustrated in G7</td>
<td>52</td>
</tr>
<tr>
<td>6.4</td>
<td>Transposable suspended chord voicings illustrated in G</td>
<td>52</td>
</tr>
<tr>
<td>6.5</td>
<td>Transposable diminished chord voicings illustrated in G diminished</td>
<td>53</td>
</tr>
<tr>
<td>6.6</td>
<td>Open E string chord voicings with two stopped notes</td>
<td>54</td>
</tr>
<tr>
<td>6.7</td>
<td>Open E string chord voicings with three stopped notes</td>
<td>54</td>
</tr>
<tr>
<td>6.8</td>
<td>Open A string chord voicings with two stopped notes</td>
<td>55</td>
</tr>
<tr>
<td>6.9</td>
<td>Open D string chord voicings</td>
<td>55</td>
</tr>
<tr>
<td>6.10</td>
<td>Open G string chord voicings</td>
<td>56</td>
</tr>
<tr>
<td>6.11</td>
<td>II-V-I progressions</td>
<td>57</td>
</tr>
<tr>
<td>6.12</td>
<td>“Autumn Leaves” cyclic progression, A section</td>
<td>58</td>
</tr>
<tr>
<td>6.13</td>
<td>“Autumn Leaves” cyclic progression, B section</td>
<td>59</td>
</tr>
<tr>
<td>6.14</td>
<td>Blues progression in C</td>
<td>59</td>
</tr>
<tr>
<td>7.1</td>
<td>Eb Major with harmonics</td>
<td>62</td>
</tr>
</tbody>
</table>
7.2 Uses of octave harmonics ................................................................. 62
7.3 Harmonic chords ............................................................................. 63
7.4 Harmonic chords with bass notes ...................................................... 63
7.5 Artificial harmonics .......................................................................... 64
7.6 Artificial slide harmonic ................................................................. 65
8.1 “Things Ain’t What They Used To Be” measures 3 and 4 .................. 67
8.2 “Alone Together” measures 5 through 8 ........................................ 68
8.3 “Alone Together” measures 9 through 12 ....................................... 69
8.4 “Tennessee Waltz” measures 23 through 25 ................................. 73
Chapter 1

INTRODUCTION

Musicians of the late fifteenth century probably never envisioned the bass viol as the lead melody voice of an ensemble or as a solo instrument. This lowest member of the string family was not even common until the eighteenth century. And still today, across a wide variety of musical genres, the predominant functions of the double bass are support, foundation, and accompaniment. This is in part due to the development of the classical style of melody and accompaniment, as well as folk practice. Yet, the soloistic capabilities and techniques of both classical and jazz bassists have developed a firm trend towards establishing the role of the bass as a melodic voice as well. The improvisational essence of jazz and the small-ensemble environment have escalated the performance practices of the double bass to that of a lead instrument in many instances. As a result, the modern bassist is now frequently expected to perform the melodic function with as much ease as the traditional bass functions.

The double bass, in the form of its viol ancestor, is one of the oldest stringed instruments still in common use, predating the emergence of the violin by over one hundred years (Siemers 2001). While the double bass (or its bass viol ancestor) was not originally conceived as a predominantly soloistic or melodic instrument, due to its low range, there is a history of solo literature for bass which began in the classical period. Some of the most famous compositions for double bass from this period are concertos by
Karl Ditters von Dittersdorf (1739-1799) and Domenico Dragonetti (1763-1846), who was also a famous bassist. Beginning with this early point in the history of the double bass, a few virtuosic performers were clearly able to showcase the double bass as a lead melodic voice in an ensemble setting.

The origins of the first jazz bass solos are not certain, as the earliest stages of jazz are undocumented by recordings. David Chevan suggests that John Lindsay’s bass solo on a Jelly Roll Morton recording of “Grandpa’s Spells” (December 16, 1926) was one of the first recorded examples (Chevan 1989). However, Jimmy Blanton (1918-1942) is widely recognized as the first great jazz bass soloist. His work with Duke Ellington’s ensembles elevated the role of the bass from limited time-keeping functions and “novelty” rhythm-section solos to a true melodic solo voice. His duo recordings with Duke Ellington are significant landmark recordings (Nash 1999).

The unaccompanied double bass solo is a relatively new medium in both jazz and classical common practice. Certainly unaccompanied works for string instruments have existed for hundreds of years. The unaccompanied violoncello suites of J. S. Bach are relevant examples. However, for the double bass, unaccompanied solo compositions did not really emerge until the twentieth century. With the new unaccompanied works in the modern classical genre came new developments in performance techniques and notational practices (Neubert 1982). Indeed, bassists have devised unique techniques and methods specific to modern unaccompanied performances. Bertram Turetzky’s *The Contemporary Contrabass* (1989) serves as a monumental resource for modern bass performance techniques.
The archives of jazz improvisation rely primarily on recorded rather than written documentation. Such is the nature of improvised music. There are many examples of modern bassists performing extended unaccompanied solos, yet little source material for that has been provided in the pedagogical, methodical, or technical literature for double bass. Artists such as Dave Holland, Lynn Seaton, and David Friesen have released entire albums of unaccompanied bass. Other artists such as Charlie Haden, Niels-Henning Orsted Pedersen, Ron Carter, and Edgar Meyer have consistently introduced innovative techniques into the art of the unaccompanied bass solo. The unaccompanied solo is clearly becoming a significant part of the professional jazz bassist’s repertoire.

While a complete historical recounting of influential jazz bassists is beyond the scope of this paper, some performers must be credited for their contributions in the field. Oscar Pettiford is regarded as Jimmy Blanton’s successor in the pioneering development of the jazz bass solo. He played with greater complexity than other bassists of his day, emphasizing hornlike lines which outline harmonic content and embellishing the usual techniques for playing the roots of the chords and keeping the beat (Gourse 57). Slam Stewart and his protégé Major Holly were both important to the development and acceptance of the bass as a melodic solo voice in jazz. They soloed in an arco style while singing along in unison (Holly) or an octave higher (Stewart). Paul Chambers also utilized arco techniques and furthered the art of the bass solo on some of the most important albums in jazz. Scott LaFaro’s contributions and innovations removed the constraints of the predominate root functions of the bass while in an accompaniment role. LaFaro soloed and interacted with pianist Bill Evans freely and melodically while accompanying him, often in the higher register of the bass.
A few bassists have expanded the techniques and performance practices of the bass in the duo format, which is closely related to the unaccompanied bass solo format. Bassist Willie Ruff joined pianist Dwike Mitchell to form a successful and influential duo for many years. Despite Ruff’s separation from the mainstream playing arena of jazz, he became quite influential as a professor at Yale University. Harvie Swartz is another bassist known for his contributions in a duo format, notably with vocalist Sheila Jordan. The format of the bass and vocal duo is particularly related to this study, as nearly all the bass solos in such a format are unaccompanied, and the accompaniment function involves more harmonic implication than merely playing the roots.

Several important electric bassists have also contributed to the art of the unaccompanied jazz bass solo and to its acceptance by listeners. Jaco Pastorius was widely regarded as the most innovative electric bassist of his time. His unaccompanied electric bass solos were innovative, virtuosic, and musical. Other modern electric bassists such as Michael Manring have developed an increasing array of techniques that expand the possibilities for expression on the electric bass. While in many ways, the electric bass differs from the acoustic double bass, many techniques, ideas, and concepts can cross over and be applied from one to the other, particularly chord voicings and linear techniques.

**Significance of the Study**

This study is rooted in the philosophy that it is important that any instrumentalist be able to make a cohesive personal musical statement on his or her instrument. Jazz double bassists may be expected to perform an unaccompanied solo in a multitude of settings, whether this is an introduction to a song, a solo within a song, or a complete
piece in and of itself. This study was designed to provide the double bassist with a variety of techniques, not only for unaccompanied solo, but also to expand his or her vocabulary for solo improvisation.

The published repertoire for unaccompanied jazz double bass is virtually non-existent. Pedagogical and instructional materials are also insufficient. This study was designed to provide students and professionals with the basic concepts of unaccompanied soloing techniques for the double bass. Since 1978, the jazz bass studio of the University of Miami Frost School of Music under the direction of Professor Donald Coffman has recognized the importance of solo bass techniques. All jazz bass majors there are required to perform an unaccompanied solo piece at each jury exam and on their senior and graduate recitals. Some students choose to fulfill this requirement using the electric bass guitar, while others choose to perform such unaccompanied solos on the double bass. This was a source of information and inspiration for this paper.

**Purpose of the Study**

The purpose of this study was to research and demonstrate various techniques that a double bassist may utilize when performing an unaccompanied solo in a jazz setting. This study primarily focused on pizzicato (plucked) styles and sought to maximize the polyphonic potential of the double bass, which has traditionally been considered a homophonic instrument. This study provides a written, organized approach that illustrates recorded examples and augments private instruction for the double bass.
Research Questions

1. What are the theoretical intervallic possibilities for polyphonic performance on the double bass?
   a. What intervals are possible utilizing the open strings?
   b. What intervals are possible utilizing only stopped notes?
   c. Which recorded examples of known performers demonstrating some of these intervals are available?

2. What are the theoretical chordal applications of these intervals?
   a. How can performers voice the essential qualities of chords?
   b. How can performers voice chords in any key?
   c. How can performers utilize rootless voicings?
   d. Which recorded examples are available that demonstrate these chordal techniques?

3. How can double bassists develop a chordal self-accompaniment to a melodic statement?
   a. How much of the accompaniment can be chordal, and how much can be implied by linear accompaniment?
   b. What role does the pitch of the melody play as it relates to chord tones?
   c. Which recorded examples are available that demonstrate this function?
   d. What are other sources for the double bassist to draw from? (Guitar? Electric bass? Classical double bass? Knowledge of keyboard harmony?)
This study offers a vocabulary of techniques comprising chords and intervals that allow the double bassist to accompany oneself. It uses an intervallic approach to determining practical ways of voicing chords and accompanying melodic statements. Specific songs from the standard repertoire have been chosen to demonstrate self-accompaniment techniques in the contexts of melodic and harmonic movement. Recorded examples are provided that show how specific bassists successfully used certain techniques in the contexts of songs. Bassists that were examined include Ray Brown, Niels-Henning Orsted Pedersen, Dave Holland, Charlie Hayden, Ron Carter, Edgar Meyer, Lynn Seaton, and David Friesen.
Chapter 2

LITERATURE REVIEW

The purpose of this chapter is to review the literature related to unaccompanied jazz double bass solo techniques. This chapter is organized into four sections: literature relating to classical double bass, literature relating to jazz bass (acoustic and electric), literature relating to other instruments in unaccompanied styles, and recordings of unaccompanied jazz bass solos to be used as sources.

Classical Double Bass

Corrado Canonici’s article “New Music Techniques: Using Harmonics” was published in Double Bassist magazine in 2005. He explored three specific techniques commonly used and explored by composers of contemporary new bass music: harmonics, artificial harmonics, and microtones. He illustrates these with two contemporary solo bass works by Finnish composer Teppo Hauta-aho: Kadenza and Journey-Fantasy. Canonici describes Hauta-aho’s bass compositions as combining free improvisation, jazz, and experimental music. Canonici describes the performance practices associated with the techniques required to play specific chords on the double bass that combine harmonics with stopped notes. This was very relevant to the topic of this paper, specifically in the areas of harmonics and chord voicings. The use of these techniques in Hauta-aho’s music is both innovative and practical, and his compositions were further studied in the course of this research.
Lucas Drew’s *The Notation of Harmonics for Double Bass* is a guide to the orchestral bass parts of Maurice Ravel which illustrates the notational practices of harmonics in simplified chart form. The three-page chart illustrates the harmonic series on each string, Ravel’s notation of various harmonics found in specified works, and the placement of harmonics on each string. A full page of explanation and diagrams clarifies the three-page chart. The clear explanations made this the most useful text on harmonic notation for double bass that I found in my research. It was particularly useful to my paper in the chapter covering pizzicato harmonic techniques.

Lucas Drew’s *Zodiac Suite* contains twelve small pieces for unaccompanied double bass, based on the signs of the zodiac. While most of the music is written for arco playing, some pizzicato is also employed. Double stops, triple stops, and harmonics are also utilized and notated. Many advanced techniques are also notated, including use of *col legno*, use of a tympani mallet, and playing the strings between the tailpiece and bridge. The eleventh piece, “Aquarius,” is written entirely for pizzicato and incorporates a returning “walking bass line” theme that alternates with a “rock” theme in 7/4 time. It is a good example of bass lines being used as melodic statements. Some pizzicato harmonics are also notated at the end. The primary relevance of these pieces to this paper was their organization and notation of specific contemporary techniques.

Barry Green’s *Advanced Techniques of Double Bass Playing* is divided into two parts. Part one focuses primarily on basic techniques associated with arco styles. General topics include: sound production, “off-the-string” bowing technique, bow direction, and principles of movement. The last section includes many relevant subjects
such as shifting, bridged and barred fingerings, pivoted and extended fingerings, four-finger left hand technique, C-extension, double stops, and pizzicato. Part two focuses on contemporary double bass playing and includes many relevant sections including: notation, harmonics, and contemporary techniques. While this book was written primarily for the classical bassist utilizing arco techniques, it contains many subjects applicable to self-accompaniment in a jazz context. Specifically relevant are the sections covering double stops, harmonics, notation, and pizzicato techniques. The notation practices and definitions of techniques were particularly useful.

Brian John Siemers’ dissertation, *The History and Development of the Double Bass*, was completed at the University of Cincinnati in 2001. Siemers traces the origins of the double bass from the late fifteenth century both in terms of physical characteristics as well as its place in musical literature. Included are discussions of “performance practice, the role of the double bass in musical literature, virtuoso performers and composers who have had an impact on the development of the double bass, and the role of the double bass in jazz and genres outside of the classical world.” Its primary relevance to this paper was as background information.

Ludwig Streicher’s *Mein Musizieren auf dem Kontrabass* is divided into five volumes. It is primarily written in German, the organization is unclear, and it mostly consists of unexplained etudes, so the vast majority of the information was not very useful or relevant to this topic. However, at the end of the fifth volume Streicher deals with the topic of natural and artificial harmonics. The notations of harmonics were often unclear, and Streicher’s lack of explanation was not helpful.
Bertram Turetzky’s *The Contemporary Contrabass* begins with some brief background information which is followed by a section about pizzicato technique. He references many jazz bassists from the 1950’s and draws from their contributions to the jazz realm. He goes on to discuss advanced pizzicato techniques and how they have evolved. Other sections include: new directions in bowing, the bass as a drum (percussion effects), vocal and speech sounds, harmonics, and miscellanea. Also included is a very extensive bibliography. Turetzky provides a great deal of background information about common practice techniques, including his own techniques and notation. He discusses scientific explanations and covers many other areas which did not appear to be relevant to this paper, but specific areas were useful as background information, especially his sections which covered pizzicato, percussive, and harmonic techniques.

**Jazz Bass**

Roscoe Beck’s article “Mastering 5-String: Introduction to Chords” was published in *Bass Player* magazine in February of 2002. He specifically utilizes the low B string of the electric 5-string bass as a means to achieve wider intervals between chord voices. He discusses issues of practicality, playability and omission of “less important” notes in a voicing. He gives examples of common chord progressions using three-note voicings. Beck uses the 5th string in order to play progressions without moving all over the fingerboard. While this wasn’t specifically transferable to a 4-string acoustic bass, the seventh to third voice leading was well illustrated. These voice-leading concepts were expanded as they were applied to chord progressions and songs in this paper.
Sigi Busch’s Jazz Bass Compendium is a 205-page jazz bass method book comprising many sections including: The Right Hand, The Left Hand, Coordinating Both Hands, Bass Lines, Elements of Sound, Arpeggios, Phrasing and Articulation, Scales, Practice Concept, and Etudes. Busch states that this book is not intended for beginners, and the reader is assumed to have a basic knowledge of music theory and instrumental technique. The book is written in both English and German. There are several useful techniques discussed, although the book does not address unaccompanied solo techniques specifically. Specific relevant topics include: the use of three-fingered right-hand pizzicato techniques, left-hand pizzicato techniques, arpeggios and upper structures, “ii – V” progressions, and a one-page unaccompanied bass solo on “Georgia on my Mind.” Also included are four duos for double basses. The solo is basic, but utilizes some usable concepts and techniques as well as illustrating ideas for notation.

David Chevan’s The Double Bass as a Solo Instrument in Early Jazz is an essay about the development of the double bass as a solo instrument in jazz. While it doesn’t contain any information related to the actual performance practices of an unaccompanied double bass solo, its subject matter speaks to the justification and tradition of the double bass as a solo instrument. As such, it was useful as background information for the justification of this topic.

Dr. William L. Fowler’s article “How to Master Seventh Chords on Bass” was published in Down Beat magazine in 1976. The article’s intention is to aid bass players’ improvisational skills. He discusses common types of seventh chords, alterations, and inversions. He illustrates the application of these seventh chords for bass with
fingerboard charts. In the practices procedures, Fowler advises fingering all the strings at once and strumming them as a chord, moving up the neck in inversions as outlined on his fingerboard chart. He also utilizes arpeggios in the same exercises. While this information was intended for electric bass, it was very adaptable to the double bass. Fowler’s discussion of inversions was particularly useful when considering chord voicings where the pitch of the melody note is the root of the chord.

Richard Laird states that the purpose of Improvising Jazz Bass is to “provide the aspiring bassist with data vital to performing successfully in a wide variety of contemporary musical situations” (Laird 4). He covers a wide range of topics including: equipment, fundamentals of technique, practicing, tuning, scales, bass lines in a wide variety of styles, and soloing. In the “soloing” section, he deals with some areas that are relevant to this paper. He discusses and illustrates the use of double stops for the electric bass, concentrating on the intervals of major and minor tenths using the E and G strings. He briefly deals with the intervals of sevenths, fifths, thirds, and sixths. He concludes his book with a self-composed unaccompanied bass guitar solo titled “City and Eastern Blues.” It illustrates his use of various intervals as double stops in a bass guitar solo. It proved to be very adaptable for the double bass.

Glenn Letsch’s article “Woodshed: the Language of Music – Double-Stops” was published in Bass Player magazine in November of 2003. Letsch gives a beginning lesson intended to introduce electric bassists to double stops by utilizing a G major scale going up the fingerboard in diatonic tenths using the E and G strings. Letsch follows up in subsequent articles with further exercises and applications and includes right-hand
techniques as well. In part three, Letsch adds sevenths to his vocabulary of tenths (thirds) and begins to deal with cadential harmony. In part four, Letsch applies these double stops to various rhythmic figures and further right-hand techniques. While these articles began at a very basic level, the concepts were very adaptable for expansion and development on the acoustic bass. The right hand techniques were particularly useful.

Michael Manring wrote a series of articles in *Bass Player* magazine in 1997 and 1998 dealing with harmonics and altered tunings. The first article introduces the concept of “filling the gaps” in the set of high harmonics available on electric bass by using altered tunings. He discusses the difficulties of playing harmonics in certain keys. In further articles, he discusses diatonic harmonics and chromatic harmonics using altered tunings. While Manring is a master of performing these altered tuning techniques on the electric bass guitar and can even change the tuning of his bass in mid-performance with detuners to allow further harmonic possibilities, altered tunings were beyond the scope of this study.

Michelle Mercer’s article “Players: Remapping through Harmonics” was published in *Down Beat* magazine in March of 2000. Mercer interviews bassist Mark Dresser concerning his use of advance techniques that remap the bass through harmonics. Many extended techniques are described but not in any pedagogical fashion. There was nothing specifically useful in this brief article for this paper.

Robert Nash’s doctoral dissertation *The Solo Vocabulary of Jazz Bassist Jimmie Blanton* was completed in 1999 at Louisiana State University. Nash examines various aspects of Jimmie Blanton’s solo vocabulary by transcribing, analyzing, and comparing
eighteen of his complete solo performances. Nash focuses on melodic, harmonic, and rhythmic components “which comprise [Blanton’s] vocabulary in their original context, and provides greater insight into his approach to jazz improvisation in a variety of musical settings.” While Blanton was never known for unaccompanied solos, his duo recordings with Duke Ellington are very important landmarks in jazz bass history. As one of the most important innovators of the jazz bass in a soloing context, this study was useful in terms of background information and significance of the study but not in terms of chord voicings.

Adam Novick’s *Harmonics for Electric Bass* was the most complete and exhaustive reference for bass harmonics found in my research. He includes scientific explanations as well as practical techniques and performance applications. First, he diagrams every harmonic found on every string of the electric bass. Then he applies these harmonics in two main areas: playing chords with harmonics and playing melodies with harmonics. While some of the upper harmonics and techniques were not practically applicable to the acoustic double bass, the majority of the information presented was very useful. Novick includes an entire chord book which covers every key and many chord qualities including: various major chord voicings, dominant chord voicings, minor chord voicings, and diminished chord voicings. He also includes chord substitutions for certain chord qualities that are absent from certain keys. Overall, this was a valuable reference source.

Dean Peer’s article “Bass Harmonics: the Natural way” was published in *Guitar Player* magazine in March of 1990. He discusses the performance practices of playing
harmonics on the electric bass guitar. He also discusses the application of combining harmonics with fretted notes to play chords and chord progressions. He includes a fingerboard chart illustrating locations of harmonics both mathematically and in terms of chord tones. This information was expanded upon in my chapter covering harmonic techniques for the double bass.

Scott Reed’s article “An Examination of Jazz Pizzicato Technique” was published in the International Society of Bassists Newsletter in 1983. He states that “while much has been written on proper bowing technique, pizzicato is a somewhat neglected topic.” Specifically, he deals with pizzicato and right-hand technique in a jazz context. He also lists various ways of plucking double stops with the right hand but does not develop this subject at length. This subject was expanded upon in this paper since some unconventional right-hand pizzicato techniques must be utilized to perform various double stops in order to achieve specific timbres.

Dana Roth’s Mel Bay’s Complete Book of Bass Chords is a 254-page reference guide with over 1200 different chord positions based on thirty-six chords. These thirty-six chord qualities are applied to the diatonic notes of C-Major and fingerboard diagrams illustrate positions all over the neck of the bass. While the information presented is not necessarily intended to be used to actually play polyphonic chords, it could be applied that way. The most useful information for this paper is found on a single page in the appendix where thirty-six qualities of chords (major, minor, alterations, etc.) are illustrated in transposable fingerboard diagrams.
Michael E. Taylor’s *James Blanton, Raymond Brown, and Charles Mingus: a Study of the Development of the Double Bass in Modern Jazz* is a dissertation completed at the University of Pittsburgh in 2002. Taylor analyzes the individual styles of these grand masters of the bass and studies their individual approaches. He also discusses the relationship of the blues to each of the three bassists in the context of their different periods in jazz history. Other topics include: the interaction of the bass with various ensemble settings, solo playing, walking patterns, and other accompaniment techniques. While this paper did not directly address my topic, all three of the bassists that he covered are represented in this study.

Dan Towey’s *Jaco Pastorius: [a step-by-step breakdown of the styles and techniques of the world's greatest electric bassist]* is a collection of transcriptions of Jaco’s improvised bass parts on fifteen songs. Towey also provides background information, analysis, and performance techniques for each of the songs. While every transcription is of an electric bass guitar performance, many techniques were adaptable for the double bass. The use of tablature was also particularly useful in deciphering how certain harmonics were performed. Towey’s explanation of specific techniques was also extremely useful and relevant, especially concerning harmonics and artificial “harp harmonics” that provide pitches which are often not otherwise available in the natural harmonic series of the open strings of the bass. Most of the transcriptions are of Jaco’s bass parts within a full band context, but a complete transcription of Jaco’s solo piece “Portrait of Tracy” is also included.
Lynn Seaton’s *Jazz Solos for Bass* is a collection of written bass solos in jazz styles. He grades each solo based on difficulty, ranging from grade 2 to grade 6. Grade 2 pieces feature single-note lines consisting of eighth-notes and quarter-notes. Grade 6 pieces include more complex rhythms, as well as double and triple stops. Most pieces are designed with the option to be played either pizzicato or arco. Seaton’s solo bass arrangements are original compositions and illustrate many relevant subjects, including: double and triple stop chord voicings, use of open strings, and notational practices.

Chuck Sher’s *The Improviser’s Bass Method* covers a broad area of music and bass playing, beginning at a very basic level. Topics included are: physical aspects of playing, basic theory, scale studies, chord studies, rhythm studies, interval studies, creating bass lines, chord voicings, analyzing tunes, chord extensions, soloing, developing musicianship, Latin bass lines, and transcribed bass lines and solos. There is one section of particular interest to my topic where Sher illustrates thumb-position voicings for chords on the acoustic bass. He uses fingerboard charts to show various inversion and finger-positioning possibilities. My project went much further in this area than his brief example, but his fingerboard charts were a useful guide as to how to organize and illustrate these concepts. Also of interest are two of the transcribed solos in the appendix by David Friesen and Rob Wasserman. Friesen’s “Autumn Ballet” is not unaccompanied, but it does contain the use of several double-stop intervals, including tenths, fifths, and open strings. Wasserman’s “Bass Space” is unaccompanied and uses many double stops and harmonics.
Chuck Sher states that the purpose of *Concepts for Bass Soloing* is to “help both aspiring and professional bassists expand their ability to create coherent and meaningful solos” (Sher i). The book is organized in a series of exercises that combine written essays of concepts for soloing with short musical examples that illustrate the concept. Marc Johnson performs the musical examples on an accompanying cassette tape. Topics covered include: choice of notes in a modality, phrasing exercises, choice of notes on a given chord, practicing soloing on tunes, and transcribed bass solos. The focus of this book is on developing the bass player as a soloist and as such is relevant. However, it has little to do specifically with the challenges and techniques of playing an unaccompanied solo. There is however one specific exercise (number 9) which utilizes and explains double stops very effectively in a modal setting that was useful.

Donald Wilner’s doctoral essay *Interactive Jazz Improvisation in the Bill Evans Trio (1959-61): A Stylistic Study for Advanced Double Bass Performance* was completed in 1995 at the University of Miami. He describes the purpose of his essay as “to identify and observe the attributes of overall performance style and the interactive improvisational style of the Bill Evans Trio, and to identify musical concepts based on these observations to facilitate learning and performance of the style as related to double bass performance” (Wilner 5). Wilner’s dissertation incorporates a review of related literature, a background of selected jazz eras and jazz bass performers (including George “Pops” Foster, Jimmy Blanton, Oscar Pettiford, Ray Brown, Charles Mingus, Keith “Red” Mitchell, and Scott LaFaro), performance characteristics of the Bill Evans trio, and a summary and discussion section. Wilner focuses on the interactive and conversational aspects of the
bass in a jazz trio setting. While there is nothing directly related to unaccompanied performance, there is a strong focus on the bass as an equal melodic voice in a trio. The extensive bibliography is useful as well.

Victor Wooten’s article “Freshness Guaranteed: ‘Amazing Grace’ in Harmonics” was published in *Bass Player* magazine in August of 1998. Wooten states the influence of Jaco Pastorius’ use of harmonics in “Portrait of Tracy” as profound for Wooten’s own playing. Wooten documents his electric bass guitar performance of “Amazing Grace” with the melody played completely as harmonics, with fretted bass notes underneath. He explains the harmonic notation very clearly. While this was difficult to fully adapt for acoustic bass, it was very useful to see how Wooten uses the harmonic series to voice a complete “folk” melody, while accompanying himself with natural bass notes.

**Other Instruments in Unaccompanied Styles**

Michael DiLiddo’s doctoral essay *Classic Guitar Performance Techniques for the Jazz Guitarist Including Applications to the Jazz Style* comprises two parts. The first part “defines basic classic guitar techniques and presents them to college jazz guitarists.” The second part applies these techniques to the jazz style. DiLiddo includes examples for “finger-style” right-hand technique that cover single-note improvisation, two- and three-part accompaniment practices, and for unaccompanied solo performance. While a virtuoso technique would be required to literally translate most of these concepts to the double bass, some simplified concepts from the chapter on “Broken Chords” are insightful in a polyphonic context. Concepts such as sustaining bass notes while playing melody notes above are discussed and illustrated.
Terence Stark Gunderson’s doctoral dissertation *A Pedagogical Approach to Solo Jazz Vibraphone Developed through an Analysis of Common Performance Practice (Piano)* was completed in 1992 at the University of Northern Colorado. The purpose of Gunderson’s study was to “develop a method book for solo (i.e. unaccompanied) jazz vibraphone.” He studied fifteen jazz piano method books in order to draw from techniques that jazz piano players were expected to master. Selected unaccompanied jazz vibraphone solos were transcribed and analyzed, as well as published solos. Gunderson discovered that the accompaniment techniques found in those vibraphone solos corresponded to the techniques in the jazz piano method books. This study is relevant in several aspects: limited polyphonic practice (at least in 4-mallet technique), designing a method for unaccompanied jazz solos, and self-accompaniment techniques.

John Thomas’ *Voice Leading for Guitar* is a large volume intended for intermediate to advanced jazz guitarists. A basic understanding of musical notation, chord symbols, scales, modes, jazz harmony, and chord voicing techniques are prerequisite. Topics covered include: harmony review, introduction to voice leading, major “ii-V-I” progressions, minor “ii-V-i” progressions, practice tunes, practice rhythms, advanced progressions, and turnarounds. Adaptation of this material for the double bass is possible, but much simplification is needed for practical application. The basic voice-leading information presented at the beginning was the most useful to my topic. Thomas illustrates the changing notes in functional harmonic chord progressions and shows how the seventh resolves to the third in practical voicings on the guitar fret board. This information was utilized in this paper to assimilate the most important
voicing resolutions in chord progressions that define the qualities of the harmonic structure. Also useful throughout the book are the wide-interval guitar voicings that are much more applicable to bass than typical piano close voicings.

**Recordings to be Used as Sources**

Ray Brown recorded *Black Orpheus* live in Tokyo in 1989 and 1991. His trio includes Gene Harris on piano and Jeff Hamilton on drums. While Brown doesn’t play an entire unaccompanied solo, he does begin “Things Ain’t What They Used to Be” with an unaccompanied introduction and melody statement. The introduction is played freely, but he goes into a swinging blues tempo for the melody statement. The primary interest for this topic is Brown’s use of double-stops to outline the dominant seventh chords in the blues progression. He uses the interval of a tritone to provide harmonic information between the phrases of the melody. This specific device was useful to as an example.

Dave Holland recorded *Emerald Tears* in 1977, and it contains eight tracks of solo unaccompanied double bass. Holland composed six of the songs: “Spheres,” “Emerald Tears,” “Combination,” “Under Redwoods,” “Flurries,” and “Hooveling.” He also performs the songs “B-40/M23-6K/RS-4-W,” by Anthony Braxton, and “Solar,” by Miles Davis. The tracks run from four to six-and-half minutes. Six of the tracks feature predominantly pizzicato techniques, and two feature arco techniques. Holland utilizes double-stops and some nontraditional techniques, but plays mostly single-note lines. He goes into tempo periodically, but most of this recording is rubato. A very relevant contribution this thirty-year-old recording makes to my topic is to provide a justification for the double bass as a solo, unaccompanied voice in a jazz context. Holland’s use of
double-stops with open strings on the song “Emerald Tears” is directly related to this paper and shows great use of a pedal point with a melody that outlines a changing harmony. Another interesting aspect of this performance is how Holland organizes the piece so that he continually returns to a theme, similar to rondo form.

Dave Holland recorded *Ones All* in May of 1993. It is his second recording comprised entirely of unaccompanied bass solo pieces. With the exception of the first part of one piece, it is entirely pizzicato. Of eleven total songs, six are original compositions by Holland. He also performs “Three Step Dance” by Glen Moore, “Pork Pie Hat” by Charles Mingus, “Mr. P.C.” by John Coltrane, “Little Girl I’ll Miss You” by Bunky Green, and “God Bless the Child” by Billie Holliday and Arthur Herzog. The jazz standards are of particular interest. For instance, in his performance of “Pork Pie Hat” Holland plays a rubato melody statement, outlining the harmony with a combination of bass notes, double-stops, and single-note lines. Then for the improvisation section, Holland goes into tempo, but improvises over a much simpler harmonic structure. This particular performance was transcribed and proved to be very useful in the illustration of various techniques in the context of a jazz standard. In Holland’s over-all approach to unaccompanied solos, one of his greatest strengths is his organizational concept. He returns to themes, develops melodies, and uses tempo and rubato where appropriate. All of these musical devices are combined to form a cohesive musical performance.

Lynn Seaton recorded *Solo Flights* in 1996. Of the twelve unaccompanied solo bass pieces, seven are original compositions. He also performs five standards: “Moten Swing,” “Body and Soul,” “How High the Moon/Ornithology,” “Honeysuckle Rose,” and
“Yesterdays.” Seaton alternates so that half of the tracks are arco and half are pizzicato. Seaton’s “Liltin’ with Milton” features an interesting combination of pizzicato chords and arco melody lines. Seaton’s pizzicato treatments of the standards are of particular interest to my topic. While the ballad “Body and Soul” is very free and rubato, “How High the Moon” contains both rubato and up-tempo swing sections. Seaton begins freely with a harmonically rich melody statement and then goes into a fast swing tempo for the improvisation section. Seaton uses double and triple stops to accompany himself throughout the improvisation. He closes the song with the up-tempo be-bop melody “Ornithology.” It is an interesting and effective arrangement. Seaton’s arrangement of “Honeysuckle Rose” also contains many relevant techniques and ideas. He stays in a moderate swing tempo and uses numerous double stops and chords specific to his arrangement of the melody.
Chapter 3

METHODOLOGY

Delimitations

This paper is intended to provide a pedagogical method for performing unaccompanied double bass solos in a jazz context which will be useful to advanced university students and professional bassists as well. Thus, this essay presupposes of its readers a fundamental knowledge of bass performance techniques and jazz music theory. Those topics are not included within the scope of this paper.

This paper deals exclusively with pizzicato (plucked) techniques for a variety of reasons. First, arco (bowed) techniques are not common-practice or at a high level of proficiency for many jazz double bassists. Second, use of the bow can limit double-stop options and the polyphonic potential of the bass that requires string crossings. Third, contemporary arco techniques are well discussed in the literature for classical bassists. While the bow can be a valid tool in the unaccompanied jazz bassist’s arsenal, these techniques are not within the scope of this paper.

Percussive and other contemporary techniques for producing non-traditional sounds with the double bass also were outside of the scope of this project. While they are certainly valid, and utilized in both classical and jazz genres, they simply did not fit into this organizational approach, which was primarily based on harmonic concepts. Some books have also been written that include these contemporary techniques, such as
Green’s *Advanced Techniques of Double Bass Playing* and Turetzky’s *The Contemporary Contrabass*.

This dissertation is not a survey or critique of all recorded unaccompanied jazz double bass solos. Illustrative examples were taken from some recorded unaccompanied bass solos, and several bassists were referenced who have made contributions in this field. This paper did not only seek to examine the playing styles, performing practices, and arrangements of specific performers and the general body of recorded works, but focused on the development of my own methodology.

Contemporary double bass performances and recordings often include amplification and various electronic sound effects. The focus of the techniques and concepts presented in this paper was limited to the unamplified double bass. While the concepts presented in this paper could be utilized in an “electronic” performance, such performance practices were not discussed directly.

Altered tunings provide a whole other realm of possibilities for solo bass performances. Some bassists such as Michael Manring have explored some of these techniques, increasing the polyphonic potential of the bass. However, due to the broad scope of altered tuning techniques, they were not included in this paper. That subject is worthy of its own independent study. Also, the use of altered tunings is not a common practice in most bassists’ range of techniques. Some examples and applications were included for use of the C-extension which is the most common means of altering the E-string’s pitch. By lengthening the string instead of retuning the string by means of the extension, the location of the stopped notes remain constant, but the harmonic series changes, based on the new, lower fundamental pitch.
Description of Method

The ultimate goal of this paper is to instruct advanced bass students and professionals in the arrangement of unaccompanied solo performances of material of their choice utilizing the techniques and concepts presented herein. The techniques and concepts were organized as a set of chronological building blocks, one stacked on top of another, eventually leading to complete performances of songs.

It begins with techniques for polyphonic performance, using an intervallic approach, illustrated with double stops with and without open strings. Right-hand and left-hand performance practices were also addressed. That is followed by a discussion of contrapuntal techniques for self-accompaniment, including linear movement and voice leading in bass lines, linear movement and voice leading in the harmonic voices (seventh to third resolutions), arpeggiation, scales, and modes.

With the performance and conceptual aspects of polyphony and harmonic voice leading covered, these techniques are applied to specific chord progressions. First, I provided a catalogue of chords which was divided into two parts. Part one consisted of non-transposable chords using open strings that can only be played in one place on the bass and in one key. Part two consisted of transposable chords that can be played in many places on the bass and excludes open strings. Second, chords and contrapuntal techniques were applied to common chord progressions, including ii-V-I progressions, cycle-of-fifth progressions (such as in “Autumn Leaves”), and Blues progressions.

Harmonics are a special technique that can be incorporated or excluded from the other material covered in this essay, and therefore they have their own separate section. The practical uses of natural and artificial harmonics on the double bass were discussed.
with pizzicato techniques. The chordal possibilities of harmonics used in conjunction with open strings and with stopped notes are also examined.

The material covered up to this point was combined in the third section, which applied these techniques to actual complete songs with existing melodies and harmonic structures, using several pieces to illustrate how specific techniques can be used in practical applications. Various song types were considered in order to illustrate as many different techniques and concepts as possible. The melody statements of unaccompanied bass solo arrangements by Ray Brown and Dave Holland were transcribed and provided. Three original unaccompanied arrangements were composed to further illustrate the practical application of the techniques discussed in this paper. Narrative was included to discuss how to perform certain passages and explain how the arranged self-accompaniment works to support the melody.

This paper concludes with a summary of the topics covered and offers some suggested recordings of bassists performing in unaccompanied situations. An extensive bibliography is also included.

**Notation**

Due to the specialized nature of this topic, certain notation practices are not common. Also, certain notation practices are not consistent in the published repertoire, such as the notation of harmonics. While explanations of specific techniques can be found at relevant points in this paper, general notation practices are listed here.

It should be noted that all examples throughout this paper and scores in the appendix sound an octave below the written pitch. This is the standard notation practice for the double bass. It should also be noted that in measureless examples of this paper
(such as Example 6.6), accidentals are listed for each individual chord and do not carry over to following chords. Throughout this paper, fingerings of either hand are notated such that the index finger is indicated by a “1,” the middle finger is indicated by a “2,” the ring finger is indicated by a “3,” the pinky finger is indicated by a “4,” and the thumb is indicated by a “+.”

A harmonic is indicated by an “o” above the note. In this paper, harmonics are notated by the note on the fingerboard where a particular harmonic is produced. When the resulting pitch is different than the notated pitch, the sounding pitch is indicated (such as in measure 8 of the “Tennessee Waltz” in the appendix of this paper). The intended string to be used for complex harmonic passages is indicated by the letter of the string (G, D, A, or E) surrounded by a circle, located just beside the note.
Chapter 4

DOUBLE STOPS

A key element of this study’s methodology is the full exposition of the polyphonic potential of the double bass. Performing double stops (sounding two notes simultaneously) is the most basic and practical means of approaching the bass as a polyphonic instrument. This chapter will examine the range of double stops on the bass in the context of normal hand positions, as well as double stop performance practices. Triple stops will also be examined. These will serve as key building blocks for a self-accompaniment vocabulary used in creating arrangements for solo bass performances.

Right Hand Double Stop Technique

Before delving into the realm of pitches and intervals which are primarily “left hand” concerns, it is important to understand how to actually pluck and sound double stops with the right hand. There are several options available to the performer, based on what strings are being used and the desired sonic effect.

The first right hand technique for double stop performance is considered here “raking,” which is performed by raking a single down stroke in quick succession over two neighboring strings. This is much like a “rest-stroke,” except that instead of plucking one string then resting on the next string, one plucks two strings then rests on the third string. For instance, when performing a double stop consisting of one note on the G string and one note on the D string, the performer would pluck the G string, and in a
continuous motion, pluck the D string and then rest on the A string. Raking is also possible utilizing the thumb of the right hand in the opposite direction as described above. In this example, the thumb would first “rake” over the D string and then the G string in a continuous motion. Various effects can be achieved depending on the temporal proximity of the sounding of the two notes. The illusion can be created that the two notes are sounded simultaneously. Tremolo types of effects can also be achieved by rapidly strumming a single finger back and forth over two neighboring strings. Raking is much easier when the desired notes are located on neighboring strings.

The second right hand technique for double stop performance is hereby denoted as a “double free-stroke.” A free-stroke is performed by plucking a single note and drawing the finger into the air, rather than resting it on the next subsequent string afterwards. A “double free-stroke” utilizes two right hand fingers (typically the index and middle fingers) to simultaneously pluck two notes on two different strings. One draws the fingers slightly upwards into the air, rather than resting on other strings after the stroke. This technique is useful both for sounding notes simultaneously and also for sounding notes at different times, allowing them to ring together. Although neighboring strings are the easiest, any combination of strings may be plucked in this style.

The third right hand technique for double stop performance involves plucking two strings simultaneously with the thumb and a finger in a “pinching” motion. While utilizing the index finger in this technique is possible, the middle finger is the most anatomically balanced with the thumb. This technique allows double stop performance with any combination of strings. For instance, one could use this squeezing motion to pluck the open E string with the thumb while plucking the open G string with the middle
finger. Triple stop techniques are possible when combining this technique with the “double free-stroke” technique above. For example, pluck the open D string with the index finger while plucking the E string with the thumb and the G string with the middle finger, as above. This is a very playable triple stop chord voicing for an E minor seventh chord.

**Non-transposable Double Stops**

Non-transposable double stops utilize one or more open strings. Typically they are performed by sounding a stopped note simultaneously with an open string note (an E, A, D, or G), but one could also use a combination of two open strings. There are several advantages to utilizing open strings in this manner. First of all, open strings provide a centered pitch for good intonation, which can be a challenge in solo bass performances. Second, utilizing an open string means the performer must only stop one note, which is far easier that stopping two notes simultaneously. Third, open strings provide the performer with options to play low “bass” notes while soloing in upper registers of the instrument. Fourth, open strings have the best sustaining qualities, allowing the performer to let “bass” notes ring while performing melodic passages that may shift positions. The enormous advantages provided by the use of open strings often influence the performer’s choice of key. These non-transposable double stops will be examined in the context of each individual open string. Due to the nearly limitless number of double stops made available by the use of open strings with stopped notes, all possible combinations will not be listed. However, specific examples and techniques will be described, which should facilitate the “discovery” of unlisted combinations.
Open E String

The open E string may be combined with any other note on the A, D, or G string to sound a double stop interval. While smaller intervals (minor second, major second, minor third, major third) are not possible with the open E string due to the tuning structure of the bass, all other intervals within the range of the double bass are available and usable to the performer. Due to the low pitch of the open E string, it is often very useful to voice the top notes of the desired interval one or two octaves higher. For example, to voice a major third interval with the open E string on the bottom, the top note is a G#. (This is not even playable on the bass, since the locations of both notes are only found on the E string, and even if it was playable, the interval would sound very unclear due to the low register.) However, if one voices the G# up one or two octaves, the pitches blend very well. Measure one of example 4.1 illustrates the interval of a major tenth using the open E string.

Example 4.1. Intervals utilizing open strings

The left hand technique for voicing double stops utilizing the open E string should be the same as if one were performing a single note in any other normal situation. The right hand technique for plucking double stops utilizing the open E string can vary, but the “pinching” method by using the thumb and middle finger can be effective.
Open A String

When combining the open A string with a note from the D or G string, the technique is virtually identical to the open E string section above. It is also possible to combine the open A string with a note on the E string. Some of these combinations could be used to produce effects (such as playing an A on the E string and the open A string in unison), and some combinations are very useful for chord voicings. For instance, plucking the open A string while playing the E octave harmonic (or as a stopped note) produces the interval of a fifth. It could also be combined with a third note, such as a C# on the D string to voice an A Major tenth chord. This is illustrated in measure 2 of Example 4.1. Care must be taken in the left hand to avoid touching or muting the open A string while fingering notes on the E string.

Open D String

The open D string can be combined with any note on the G string to perform double stop intervals utilizing normal left hand performance technique. When combining the open D string with notes on the E or A string, care must be taken not to mute or touch the open D string with the left hand. Many useful interval combinations can be played in this manner, such as voicing a perfect fifth with the open D string as the top note and stopping a G on the E string as the bottom note. This is illustrated in measure 3 of Example 4.1.

Open G String

The open G string can be combined with any other note on the E, A, or D string to perform double stop intervals. Care must be taken not to mute the open G string with the left hand while stopping notes on the other strings. Many useful intervals can be played
in this manner, utilizing the open G as either the top note or the bottom note of the
interval. For example, using the open G as the top note, one can produce a Major sixth
by stopping a Bb on the A string. This is illustrated in measure 4 of Example 4.1. Using
the open G as the bottom note of an interval, one can produce a Major third by playing a
B on the D string. This is illustrated in measure 5 of Example 4.1.

**Transposable Double Stops**

Transposable double stops do not utilize open strings and can therefore be played
in any key and in many registers of the bass. They involve stopping two different notes
on different strings. This section will be divided into double stop techniques for normal
hand position and thumb position. Non-conventional and extreme upper register
fingerings will not be covered in this study.

**Normal Hand Position**

Normal hand position of the left hand is defined as spanning the range of a whole-
step between the first finger and the fourth finger, with the second finger located at the
half-step between the other fingers, and with fingers of the left hand at right angles to the
fingerboard. For example, on the D string, the first finger stops an F, the second finger
stops the F#, and the fourth finger stops the G. This section will deal with double stops
played horizontally across all four strings without stretching the fingers vertically beyond
this natural “normal” hand position. There are often alternate fingerings available for
various intervals. The most natural fingerings will be presented here, but in the context
of a particular performance, it is perfectly acceptable to use “what works” in relation to
the music that precedes and follows. It should also be noted that some intervals require
the performer to turn the left hand downward so that the fingers point towards the bridge rather than at a 90 degree angle to the strings.

**Minor third.** The interval of a minor third may be played by stopping the lower note with the fourth finger and the higher note with the first finger on the higher neighboring string. For example, playing a C on the E string with the fourth finger and playing an Eb on the A string with the first finger produces a minor third. Measure one of Example 4.2 illustrates a transposable minor third double stop interval.

**Example 4.2. Transposable double stop intervals**

![Double stop intervals diagram](image)

**Major third.** The interval of a major third may be played by stopping the lower note with the second finger and the higher note with the first finger on the higher neighboring string. For example, playing a C on the E string with the second finger and playing an E on the A string with the first finger produces a major third. Alternately, major thirds can also be played by using the fourth finger for the lower note and the second finger for the higher note. Measure 2 of Example 4.2 illustrates a transposable major third double stop interval.
**Perfect fourth.** The interval of a perfect fourth may be played in a few ways. One way is to barre a single finger across two neighboring strings at the same location. For example, playing a C on the E string with the first finger and flattening the finger so it also depresses the F on the A string produces a perfect fourth. This “barre” technique requires some bending of the left wrist. The second, third (in upper registers), or fourth fingers can also be used in this manner. Measure 3 of Example 4.2 illustrates a transposable perfect fourth double stop interval. Another way to play a perfect fourth is to stop the C with the second finger, stop the F with the third finger, and rest the first finger over the E for support. Alternately, the first finger could be used to play the C and the second finger to play the F. Measure 4 of Example 4.2 illustrates these alternate fingerings. Both of these fingerings require turning the left hand downwards so that the fingertips point more towards the bridge.

**Augmented fourth.** The interval of an augmented fourth may be played by stopping the lower note with the second finger and the higher note with the fourth finger on the higher neighboring string. For example, playing a C on the E string with the second finger and playing an F# on the A string with the fourth finger produces an augmented fourth. Alternately, the C could be played with the first finger and the F# with the second finger. Measure 5 of Example 4.2 illustrates a transposable augmented fourth double stop interval.

**Perfect fifth.** The interval of a perfect fifth may be played by stopping the lower note with the first finger and the higher note with the fourth finger on the higher neighboring string. For example, playing a C on the E string with the second finger and
playing a G on the A string with the fourth finger produces a perfect fifth. Measure 6 of Example 4.2 illustrates a transposable perfect fifth double stop interval.

**Minor sixth.** The interval of a minor sixth may be played by stopping the lower note with the fourth finger and the higher note with the first finger two strings higher. For example, playing a C on the E string with the fourth finger and playing an Ab with the first finger on the D string produces a minor sixth. Measure 7 of Example 4.2 illustrates a transposable minor sixth double stop interval.

**Major sixth.** The interval of a major sixth may be played by stopping the lower note with the second finger and the higher note with the first finger two strings higher. For example, playing a C on the E string with the second finger and playing an A on the D string with the first finger produces a major sixth. Measure 8 of Example 4.2 illustrates a transposable major sixth double stop interval.

**Minor seventh.** The interval of a minor seventh may be played a few ways. The most natural position is performed by stopping the lower note with the second finger and the higher note with the third finger two strings higher. The first finger presses down in support. For example, playing a C on the E string with the second finger and playing a Bb on the D string with the third finger (while resting the first finger over the A on the D string) produces a minor seventh. Alternately, the C could be played with the first finger and the Bb with the second finger. A third possibility would be to barre a single finger over three strings, though this is more useable in combinations that utilize the A and G strings. Measure 9 of Example 4.2 illustrates a transposable minor seventh double stop interval.
Major seventh. The interval of a major seventh may be played by stopping the lower note with the second finger and the higher note with the fourth finger two strings higher. For example, playing a C on the E string with the second finger and playing a B on the D string with the fourth finger produces a major seventh. Alternately, the C could be played with the first finger and the B with the second finger. Measure 10 of Example 4.2 illustrates a transposable major seventh double stop interval.

Octave. The interval of an octave may be played by stopping the lower note with the first finger and the higher note with the fourth finger two strings higher. For example, playing a C on the E string with the first finger and playing a C on the D string with the fourth finger produces an octave. Measure 11 of Example 4.2 illustrates a transposable octave double stop interval.

Minor ninth. Using conventional fingerings in lower positions of the neck, the interval of a minor ninth may only be performed by utilizing the E and G strings. A minor ninth may be played by stopping the lower note with the fourth finger (on the E string) and the higher note with the first finger (on the G string). For example, playing a C on the E string with the fourth finger and playing a Db on the G string with the first finger produces a minor ninth. Measure 12 of Example 4.2 illustrates a transposable minor ninth double stop interval.

Major ninth. Using conventional fingerings in lower positions of the neck, the interval of a major ninth may only be performed by utilizing the E and G strings. A major ninth may be played by stopping the lower note with the second finger (on the E string) and the higher note with the first finger (on the G string). For example, playing a C on the E string with the second finger and playing a D on the G string with the first
finger produces a major ninth. Measure 13 of Example 4.2 illustrates a transposable
major ninth double stop interval.

**Minor tenth.** Using conventional fingerings in lower positions of the neck, the
interval of a minor tenth may only be performed by utilizing the E and G strings. A
minor tenth may be played by stopping the lower note with the second finger (on the E
string) and the higher note with the third finger (on the G string). For example, playing a
C on the E string with the second finger and playing an Eb on the G string with the third
finger produces a minor tenth. Alternately, the C can be played with the first finger and
the Eb with the second or third finger. Measure 14 of Example 4.2 illustrates a
transposable minor tenth double stop interval.

**Major tenth.** Using conventional fingerings in lower positions of the neck, the
interval of a minor tenth may only be performed by utilizing the E and G strings. A
major tenth may be played by stopping the lower note with the second finger (on the E
string) and the higher note with the fourth finger (on the G string). For example, playing
a C on the E string with the second finger and playing an E on the G string with the
fourth finger produces a major tenth. Alternately, the C can be played with the first
finger and the E with the second or third fingers. Measure 15 of Example 4.2 illustrates a
transposable major tenth double stop interval.

**Natural Eleventh.** Using conventional fingerings in lower positions of the neck,
the interval of a natural eleventh may only be performed by utilizing the E and G strings.
A natural eleventh may be played by stopping the lower note with the first finger (on the
E string) and the higher note with the fourth finger (on the G string). For example,
playing a C on the E string with the first finger and playing an F on the G string with the
fourth finger produces a natural eleventh. Measure 16 of Example 4.2 illustrates a transposable natural eleventh double stop interval.

**Thumb Position**

Thumb position allows for many more intervallic possibilities and fingerings. Rather than reiterate all of the intervals discussed in the previous section and adapting them with all of the fingering combinations that thumb position provides, this section will only deal with techniques specific to thumb position.

The two typical hand positions for playing in thumb position differ by the distance between the thumb and the first finger, which can be a half-step or a whole-step. Both positions are valid and usable. It is very possible to stretch the hand position in thumb position to allow for even wider intervals, especially on neighboring strings. However, this discussion will only deal with the two typical hand positions for thumb position as described above.

**Major third with the thumb.** A major third may be played by stopping the lower note with the first finger and the higher note with the thumb on the next highest string. For example, playing a high Eb on the D string with the first finger and playing a high G on the G string with the thumb (half-step position) produces a major third. Measure one of Example 4.3 illustrates a transposable major third double stop interval utilizing the thumb.
Example 4.3. Transposable double stop intervals using the thumb

**Minor third with the thumb.** A minor third may be played by stopping the lower note with the second finger and the higher note with the thumb on the next highest string. For example, playing a high E on the D string with the second finger and playing a high G on the G string with the thumb (half-step position) produces a minor third. Alternately, the high E could be played with the first finger and the G with the thumb (whole-step position). Measure 2 of Example 4.3 illustrates a transposable minor third double stop interval utilizing the thumb.

**Major sixth with the thumb.** A major sixth may be played by stopping the lower note with the thumb and the higher note with the third finger on the next highest string. For example, playing a high D on the D string with the thumb and playing a high B on the G string with the third finger (whole-step position) produces a major sixth. Measure 3 of Example 4.3 illustrates a transposable major sixth double stop interval utilizing the thumb.

**Minor sixth with the thumb.** A minor sixth may be played by stopping the lower note with the thumb and the higher note with the second finger on the next highest string. For example, playing a high D on the D string with the thumb and playing a high Bb on the G string with the second finger (whole-step position) produces a major sixth. If half-step position is desired, the Bb is played with the third finger. Measure 4 of
Example 4.3 illustrates a transposable minor sixth double stop interval utilizing the thumb.

**Minor second with the thumb.** A minor second may be played by stopping the lower note with the third finger and the higher note with the thumb on the next highest string. For example, playing a high F# on the D string with the third finger and playing a high G on the G string with the thumb (whole-step position) produces a minor second. Measure 5 of Example 4.3 illustrates a transposable minor second double stop interval utilizing the thumb.

**Major second with the thumb.** A major second may be played by stopping the lower note with the second finger and the higher note with the thumb on the next highest string. For example, playing a high F on the D string with the second finger and playing a high G on the G string with the thumb (whole-step position) produces a major second. If half-step position is desired, the F is played with the third finger. Measure 6 of Example 4.3 illustrates a transposable major second double stop interval utilizing the thumb.
Chapter 5

SINGLE-NOTE ACCOMPANIMENT

Single-note lines are extremely useful for accompaniment in the context of solo double bass performance. One can often imply a harmonic progression with a single-note, outlining the changing chord voices. This linear movement could involve a changing bass line (root movement) or a seventh to third motion in the harmony. The use of scales and arpeggios are other useful tools for outlining harmony in a single-note context. When combined with the polyphonic approach from the previous chapter, the performer has a vast array of options for self-accompaniment and harmonic expression.

Linear Movement and Voice Leading

A linear approach to self-accompaniment is very useful for unaccompanied bass solos for many reasons. Single notes are much easier to play than double stops, increasing the accuracy, pitch, and tone qualities of the performance. Also, the use of too much polyphony in some contexts can lead to an unclear performance due to the low register and rich harmonic overtones of the bass. Sometimes a simpler approach, with more sonic space, is more desirable. A linear approach also allows the bassist to actually use bass lines for self accompaniment.
**Bass Line**

The use of bass lines in self-accompaniment is often both practical and effective. The root-to-root voice leading implies the changing harmony in a manner very natural to the bass. There are several ways to utilize bass line components in an unaccompanied bass solo.

Though often overlooked by contemporary bassists, a walking bass solo allows the performer to feature and develop the melodic components of a bass line and invites the audience to appreciate subtleties they may miss when experiencing a walking bass line in the context of a full ensemble. It is also an excellent device (perhaps the best) for generating a driving rhythmic component to the solo. The performer is free to combine root-to-root harmonic movements with seventh-to-third harmonic movements in a melodic context of quarter-notes. Eighth-note and triplet embellishments can often lead to the development of melodic ideas from the bass line which can evolve into a fully melodic solo, eventually abandoning the constant walking line.

Using fragments of bass lines is an excellent device for self-accompaniment. This technique can be used with equal success in tempo or rubato situations. Through register, dynamic, and phrasing devices, one can create a call-and-response dialogue between a melodic voice and a bass line voice. For example, a particular solo performance could involve the use of thumb position in the upper register to play melodic phrases, while in the spaces between the phrases, the lowest register of the bass provides a bass line accompaniment. For in tempo performance, this accompaniment might involve five quarter notes in a walking line or a rhythmic figure, outlining the changing harmony. In
rubato situations, this accompaniment might involve more of a melodic approach to the bass line.

**Harmonic Movement**

While generally the bass line functions in a root-to-root voice leading motion, the harmonic component of a dominant to tonic resolution (five to one) functions in a seventh-to-third voice leading motion. For example, a G dominant seventh chord resolves to a C major seventh chord. The seventh degree of the G dominant seventh chord is an F. This F resolves a half-step down to an E, which is the third degree of the C major seventh chord. Example 5.1 illustrates this seventh to third harmonic resolution in the key of C major.

Example 5.1. Seventh to third resolution in C major.

This seventh-to-third motion is common harmonic practice in western music. While there are many other harmonic resolutions (especially found in the altered upper structures of jazz harmony), the seventh-to-third resolution is the strongest. It is also the most applicable to bass performance due to the low register of the bass. Often for upper structure harmonies to make sense, they must be played in upper registers. This study primarily examines the seventh-to-third resolution as applied to self accompaniment for bass solos.
Arpeggiation

Arpeggiation is a useful tool for outlining chords with single notes in succession without actually playing chords. Due to the physical design of the bass and the tuning structure, it is impossible to voice many specific chords with all of the notes sounding simultaneously. Through single note arpeggiation, virtually any harmonic quality can be expressed.

There are two principle ways of using arpeggiation in the context of an unaccompanied bass solo. The first is embellishing the melody with arpeggiation. This could involve the use of an arpeggio immediately before (leading into) a melodic phrase, or it could involve the use of an arpeggio immediately after a melodic phrase, resolving the phrase harmonically. It could also involve the use of an arpeggio as ornamentation between two melody notes. The second device is simply using arpeggiation to outline the changing harmony. Like the previous voice leading section, arpeggiation can be used between or within melodic phrases to show harmonic motion while the melody is in a state of repose. While possible to use in an in-tempo context, arpeggiation as accompaniment is most useful in rubato passages.

Scales and Modes

Scales and modes are other sources for implying harmony with single note lines. Every chord is associated with a scale, and every scale is associated with a chord. The application of scales into an unaccompanied bass solo follows the same application as described above for arpeggiation. Scales may be used for melodic embellishment or for outlining the changing harmony. In modal music, where certain notes are critical to
defining the distinct harmony of a particular mode, scalar passages are often the best way
to outline the modality.
Chapter 6

APPLICATION OF DOUBLE STOP AND SINGLE-NOTE TECHNIQUES TO CHORD PROGRESSIONS

This chapter will apply the double stop and single-note techniques from the previous chapters to chord voicings and common chord progressions. First, a catalogue of chord voicings for the bass is presented, including both transposable and non-transposable voicings. Then, these chords and single-note techniques are applied to various common chord progressions.

Catalogue of Chords

Voicing chords on the double bass may be broken down into two categories: transposable and non-transposable voicings. Transposable chord voicings, like transposable double stops, may be played in any key and in many registers of the bass. They do not utilize open strings, and can thus be transposed all over the bass. Non-transposable chord voicings utilize open strings (or harmonics, as discussed later) and cannot be freely transposed to other keys. They are very useful however, due to their comparatively ease of performance and intonation.

It should be emphasized that chords and harmony may be implied by fewer notes than are actually required for the full “definition” of a chord. For instance, fingering a low G on the E string and a B on the G string produces an interval of a major tenth. Even though this is not a chord by definition, this interval can imply many different chords,
based on the harmonic context or adjacent notes. It could imply many varieties of major, dominant, or augmented chords without having to apply a virtuosic technique to include every critical voice in the chord. These simplified voicings are presented along with the more completely defined chord voicings.

**Transposable Chord Voicings**

Transposable chord voicings may be applied to any key on the bass. However, some voicings work much better in some registers than others. The general rule is that the lower the register, the wider the intervals need to be for sonic clarity. So while voicing a low G triad in root position may sound muddy, it works very well an octave higher in thumb position. If the low G triad is voiced as a major tenth chord (root, fifth, then tenth on top), the rich harmonic overtones come to life, rather than compete with each other. Many possible chord voicings are presented for each chord quality. It is the musical context that influences which voicing is most useful in a particular situation. In the examples, the first set of voicings and fingerings are intended for normal “neck” position performance, while the second set of voicings and fingerings are intended for “thumb” position performance.

**Major chords.** Major chords may be voiced and implied in many ways. The root and major third are often enough to imply a major tonality. Example 6.1 shows many chord voicings for various G major chords that can be transposed to any key.
Example 6.1. Transposable major chord voicings illustrated in G Major.

Minor chords. Minor chords may be voiced and implied in many ways. The root and minor third are often enough to imply a minor tonality. Example 6.2 shows many chord voicings for various G minor chords that can be transposed to any key. One half diminished voicing is included.

Example 6.2. Transposable minor chord voicings illustrated in G minor.

Dominant chords. Dominant chords may be voiced and implied in many ways. While the root is important, the major third and dominant seventh are the key notes to implying a dominant tonality. Example 6.3 shows many chord voicings for various G dominant chords that can be transposed to any key. One sharp nine and one flat nine voicings are included.
Example 6.3. Transposable dominant chord voicings illustrated in G7.

Suspended chords. Suspended chords may be voiced and implied in many ways. Suspended chords are basically treated as dominant chords where the third pitch of the chord is raised to the fourth, the fifth raised to the sixth, or the octave raised to the ninth. The root and the suspended notes are key to implying a suspended tonality. Example 6.4 shows many chord voicings for various G suspended chords that can be transposed to any key.

Example 6.4. Transposable suspended chord voicings illustrated in G.

Diminished chords. Diminished chords may be voiced and implied in many ways. Because diminished chords are symmetric and are comprised of consecutive minor thirds, they can be freely inverted. The linear movement of the bass line often determines which note is considered the root. This same linear movement through a harmonic progression can also imply a diminished tonality even with few notes. The minor thirds
(root, minor third, diminished fifth, diminished seventh) can be used interchangeably to voice a diminished tonality. Example 6.5 shows many chord voicings for various G diminished chords that can be transposed to any key.

Example 6.5. Transposable diminished chord voicings illustrated in G diminished.

Non-Transposable Chord Voicings

Non-transposable chord voicings involve the use of open strings and cannot be transposed to other keys. This section illustrates potential uses for open strings as part of chord voicings. This is by no means a complete collection of all possible open string chord voicings and alterations available for double bass performance, but many practical and usable voicings are listed. Typically, the open string is used as the root of a chord, but this is not always the case. This section will be organized according to which open string is being utilized.

When three or four notes are available for a voicing, it is often possible and useful to omit one or two notes. A chord may often be implied by a two-note voicing. While this more simple approach is often desired for playability and musicality, harmonic detail is sometimes sacrificed.

**Open E string chord voicings.** Utilizing the open E string leaves the upper three strings available to stop notes and voice many qualities of chords. Combining the open E
string with a double stop voicing above it produces many playable three-note chords while only stopping two notes. Example 6.6 illustrates uses of the open E string combined with two stopped notes to voice three note chords.

Example 6.6. Open E string chord voicings with two stopped notes.

Combining the open E string with a triple stop chord voicing above it effectively produces some very useful quadruple stop voicings. Example 6.7 illustrates uses of the open E string combined with three stopped notes to voice four note chords.

Example 6.7. Open E string chord voicings with three stopped notes.

Open A string chord voicings. Utilizing the open A string leaves the upper two strings available to stop notes and voice many chord qualities. It is also possible to stop notes on the E string while carefully letting the open A string ring. Example 6.8 illustrates uses of the open A string combined with two stopped notes to voice three note chords.
Example 6.8. Open A string chord voicings with two stopped notes.

Open D string chord voicings. Utilizing the open D string leaves the other strings available to stop notes and voice various qualities of chords. While two-note voicings that utilize the D and G strings are most common and practical, it is also possible to stop notes on the E and A strings while carefully allowing the open D string to ring. Example 6.9 illustrates the use of the open D string combined with stopped notes to voice and imply chords.

Example 6.9. Open D string chord voicings.
Open G string chord voicings. Utilizing the open G string leaves the other strings available to stop notes and voice various qualities of chords. Care must be taken to let the open G string ring while stopping notes on other strings. Example 6.10 illustrates the use of the open G string combined with stopped notes to voice and imply chords.

Example 6.10. Open G string chord voicings.

Common Chord Progressions

Now that intervals, double stops, triple stops, open string voicings, and transposable voicings have been assimilated into a catalogue of chords, these techniques can be combined with single-note techniques and applied to common chord progressions. In the context of a harmonic progression, it is more useful to emphasize the primary chord tones that move in whole and half step resolutions from one chord to the next, rather than just playing chord after chord. Several common types of chord progressions found in jazz are illustrated in this section, including: ii-V-I progressions, cyclic progressions, and blues progressions.

II-V-I Progressions

The ii-V-I progression, in many varieties, is one of the most fundamental harmonic progressions found in jazz songs as well as in all of Western music. Example
6.11 illustrates various ii-V-I progressions in the key of C major using transposable methods with no open strings. Measures one and two illustrate the half step resolutions of the seventh of the first chord resolving to the third of the next chord. The connecting lines represent the step-wise resolutions. In measure one the C, which is the seventh of the Dmin7 chord, resolves to the B, which is the third of the G7 chord. In measure two the F, which is the seventh of the G7 chord, resolves to the E, which is the third of the C major chord. Measures three and four illustrate the same ii-V-I progression using only the thirds and sevenths of the chords. Measures five and six add the bass notes for complete voicings. Measures seven and eight present a ii-V-I progressions with a tritone substitution for the V chord. The tritone substitution is a useful device for altering bass notes while preserving harmonic motion. Because the V7 chord and the bII7 chord share the same third and seventh, the bass note can be interchanged. This device can be especially useful when the pitch of the melody happens to be the root of the chord. Measures nine and ten resolve to a Cmin7 chord. Measures eleven and twelve illustrate a II-V-I using all dominant chords.

Example 6.11. ii-V-I progressions.
Cyclic Progressions

Cycle of fifth progressions are common in many jazz standard songs. The chord progression to “Autumn Leaves,” by Joseph Kosma, is a good example for cyclic progression study. In G minor, the A-section begins with a Cmin7 and follows the cyclic progression iv-VII7-III-VI-ii-V-i. Example 6.12 illustrates this cyclic progression with step-wise voice-leading utilizing transposable fingerings. Connecting lines represent the step-wise seventh-to-third resolutions.


<table>
<thead>
<tr>
<th>Cmin7</th>
<th>F7</th>
<th>B♭Maj7</th>
<th>EbMaj7</th>
<th>Amin7</th>
<th>D7</th>
<th>Gmin7</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Example 6.13 illustrates the cyclic progression of the B-section of “Autumn Leaves.” In this example, open string voicings are utilized and many chord voicings are simplified. This simplification implies the harmony rather than defines it, but allows for an easier performance. Measures five through ten combine the root movement with a linear harmony line that outlines the seventh to third resolutions. Measures eleven and twelve illustrate the chromatic harmonic motion of a iii-VI-ii-V-I progression in Eb major.
Blues Progressions

Twelve-bar blues progressions are another typical harmonic format for jazz songs. There are a multitude of variations on the blues progression. Example 6.14 presents a typical twelve-bar blues progression in C. Bass line and harmonic functions are covered using only single and double stops. Open strings are used in the last two bars.

Chapter 7

HARMONICS

The performance of harmonics is a very useful technique when creating unaccompanied double bass solos. In this chapter, the word “harmonic” does not refer to harmony. The use of the word “harmonic” in this chapter refers to specific performance techniques that utilize the overtone series of stringed and other instruments. Because the method for producing harmonics does not require the notes to be stopped once they are sounded, their sustaining quality allows for many simultaneous note combinations that otherwise would be unavailable. The use of harmonics can also aid the performer in intonation because their pitches are fixed to the harmonic series of the open string. This chapter briefly examines both natural and artificial harmonics as well as the application of harmonics in chord voicings. Most college bass students should be familiar with harmonic performance practices, and there are many publications about harmonic techniques for double bass. This chapter examines the use of harmonic performance techniques as they relate to creating unaccompanied bass solos.

Natural Harmonics

Natural harmonics are produced by touching the string with the left hand at a nodal point and releasing, without depressing the string fully to the fingerboard. There are many nodal points located along a given string. They follow the harmonic series and can be mathematically mapped by dividing the string into halves, thirds, quarters, fifths,
sixths, etc. While there are an infinite number of theoretical harmonics located on a given string, it is not practical in a pizzicato style to go beyond dividing the string in eighths (a triple-octave harmonic). So for example on the G string, available natural harmonics for pizzicato performance include the octave harmonic G (dividing the string in half), the fifth harmonic D (dividing the string in thirds), the double octave harmonic G (dividing the string in quarters), the major third harmonic B (dividing the string in fifths), the octave fifth harmonic D (dividing the string in sixths), the dominant seventh harmonic F (dividing the string in sevenths), and the triple octave harmonic G (dividing the string in eighths). Note that the harmonics on the open G string spell out a G dominant seventh chord. It should be noted that the major third and dominant seventh harmonics are not in tune with our tempered tuning system.

The octave harmonics are the most useful and easiest to perform. They sound very strong, and their sustain allows the performer to combine other notes with the ringing harmonic. For example, sounding the octave G harmonic on the G string allows the performer to release and move the left hand freely to combine the ringing tone with any other notes on the D, A, or E strings. Care must be taken not to mute the ringing G string. Combining this ringing G with a low Eb on the D or A string produces an Eb major tonality. Measure one of example 7.1 illustrates this combination. Combining the ringing octave G and D string harmonics with a low Eb on the A string produces an Eb major seventh tonality. Measure two of example 7.1 illustrates this combination.
Another very practical use for the octave harmonics is when combining them with stopped notes in the same octave position on the neck. Example 7.2 illustrates several possible scenarios that utilize these octave harmonics to enhance playability, sustain, and intonation. Measure one illustrates a three-note A dominant seventh chord that only requires one stopped note. Measure two illustrates a D major tenth chord using the octave A harmonic. Measure three illustrates an E dominant seventh chord with a sharp nine alteration in a four-note voicing.

Natural harmonics can also be combined with other natural harmonics to produce chords. Example 7.3 illustrates some chordal possibilities utilizing only natural harmonic combinations. Measure one illustrates an E minor eleventh chord utilizing the double octave harmonics. Measure two illustrates a D major triad. The D harmonic is plucked
on the G string, the F# harmonic is plucked on the D string, and the A harmonic is plucked on the A string.

Example 7.3. Harmonic chords

![Example of harmonic chords](image)

These chords comprising of natural harmonics can also be combined with stopped notes to create some very interesting and unique sonorities. Example 7.4 illustrates two chords that combine harmonic upper structures with bass note roots. Measure one illustrates an implied E six-nine chord which combines a harmonic upper structure chord with a low E bass note. Measure two illustrates a Bb major seventh chord with a sharp eleventh. The harmonic upper structure is combined with a stopped Bb on the E string.

Example 7.4. Harmonic chords with bass notes

![Example of harmonic chords with bass notes](image)

**Artificial Harmonics**

The term “artificial harmonic” refers to any technique used to produce a harmonic overtone that does not naturally occur on the open strings of the bass. Typically, an artificial harmonic is produced by stopping a note with the left hand, effectively altering
the string length. The right hand then “stops” the harmonic at the desired node (usually with the thumb) while plucking the string with a finger. On the acoustic double bass, the “octave” and “fifth” harmonics are the only artificial harmonics strong enough to be performed reliably. Example 7.5 illustrates a Db “power chord” (root, fifth, octave) played in harmonics. The left hand stops a Db on the A string, an Ab on the D string, and an octave Db on the G string while the thumb of the right hand touches the string at the mid-point between the stopped notes and the bridge while plucking the string. Torque is created by the twist between the thumb and the plucking finger which allows the artificial harmonic to sound.

Example 7.5. Artificial harmonics.

Artificial harmonics can also be generated by playing a natural harmonic and then depressing the string down to the fingerboard and quickly sliding the finger to a new pitch. Example 7.6 illustrates an E harmonic on the A string sliding up a half-step to an F. The E harmonic is performed and then the string is depressed to the fingerboard and the finger slides up a half-step to the F. Measure two illustrates this harmonic in the context of a D minor nine chord. Note that the low D may be played by means of an extension, a fifth string, or by detuning the E string.
Example 7.6. Artificial slide harmonic
Chapter 8

APPLICATION TO SONGS

The purpose of this chapter is to apply all of the techniques presented up to this point to actual jazz compositions, complete with melodies and defined harmonic structures. Five songs are presented that exemplify the wide-spanning range of the jazz repertoire. Ray Brown’s solo bass arrangement of Mercer Ellington’s “Things Ain’t What They Used To Be” is a standard twelve-bar blues. “Alone Together,” by Dietz and Schwartz, represents a minor II-V-I standard with a melodic phrasing that is very compatible with self-accompaniment. Charlie Haden’s “La Pasionaria” presents a harmonic structure that is modal, functional, as well as cyclic in various sections. Dave Holland’s solo bass arrangement of Charles Mingus’ “Goodbye Pork Pie Hat” represents a harmonically complex “jazz” standard. Finally, the “Tennessee Waltz,” by Stewart and King, represents a standard harmonic structure in a major tonality. The five pieces are presented in approximate order of difficulty. All of the pieces are transcribed in Appendix A. This chapter should serve as a guide to performance.

“Things Ain’t What They Used To Be”

Ray Brown’s arrangement of the blues “Things Ain’t What They Used To Be” is harmonically minimal, but appropriate and to-the-point in the context of what is needed to support the melody. From the first two pickup notes, Brown implies a dominant seventh tonality with the tri-tone interval between the major third and minor seventh as a
double stop. These pickup notes also instantly define the swing feel and tempo of the performance. The chordal figures set up the harmony for the measures that follow and occur in the spaces between the melodic phrases. The repeating comp pattern also provides a cohesive structure for the melody.

Example 8.1 illustrates the comping placement and functionality in measures three and four of the piece. The repeating melody phrase is six beats, followed by two beats of rests. The double stop comping occurs during this melodic repose. The melodic phrase in bar three and four is in a D dominant tonality. The chord at the end of bar four anticipates the G dominant tonality for the next melody statement in bar five which is in G.


Other devices utilized by Brown in this solo melody arrangement include sliding into and out of notes and slapping the strings with a percussive effect. The sliding and bending of pitches is a trademark of Brown’s expression and can be found throughout the melodic statement. The slapping percussive effects occur in measures six and eight on beat two and serve as a “back beat.” The effect is achieved by slapping the right hand on the strings over the fingerboard just before plucking the next note.
“Alone Together”

This author’s solo arrangement of “Alone Together” combines many techniques for self-accompaniment, including: double stops, triple stops, contrapuntal voice leading, use of tempo and rubato, harmonics, and re-harmonization. While there are numerous occurrences of multiple notes overlapping and “ringing” at the same time, there are few instances where double or triple stops are articulated at the same instant. When notes are articulated separately and allowed to ring together, the effect produces strong tones with good sustain.

The arrangement begins with a moving bass-line that exemplifies double stop techniques, a contrapuntal linear motion, as well as a re-harmonization. The bass-line moves from an A to Bb to B to C to C# and up to D in bars one through 5. Measures 5 through 8 utilize a bass-line accompaniment that mimics and develops the melody between the phrases. Example 8.2 shows measures 5 through 8 of the arrangement. Note how the melody in bar 5 is mimicked by the bass line accompaniment in bar 6. Again, the melody in bar 7 is mimicked by the bass line in bar 8.

Example 8.2. “Alone Together” measures 5 through 8.
Measures nine through fourteen utilize a contrapuntal line that voice leads through the sevenths and thirds. While none of the notes are articulated at the same instant, there are usually two pitches sustaining at the same time except for beat one of these bars. Example 8.3 shows measures 9 through 12 of the arrangement.

Example 8.3. “Alone Together” measures 9 through 12.

In measure 9 note how the A (the seventh of Bmin7) resolves to a G# (the third of E7). In measure 10, the F (the seventh of Gmin7) resolves to an E (the third of C7). In measure 11, the E (the major seventh of FMaj7) changes to an Eb (the dominant seventh of F7). In measure 12, the D (the seventh of Emin7b5) resolves to a C# (the third of A7).

Measure fifteen utilizes the first three-note chord of the arrangement. This triple stop is performed by strumming the top three strings of the bass from the top down. The F is fingered on the G string, the open D is allowed to ring, and the A octave harmonic is touched on the A string. The notes are plucked in quick enough succession that they sound as one. Measure sixteen utilizes octave harmonics to voice an E minor and A seventh chords. The G octave harmonic is allowed to sustain and ring through from the E chord to the A chord, while the seventh of the E chord (D) resolves down to the third of the A chord (C#).
Measures seventeen and eighteen are performed such that the A on beat one of measure eighteen can be performed as the octave harmonic on the A string. The use of the sustaining harmonic facilitates the bass notes in measure eighteen to be played on the E string. Similarly, the D on beat one of measure 22 is also played as an octave harmonic. The use of the sustaining harmonic frees the left hand to finger a G and Bb to voice a G minor tenth chord.

In order to play the two low D’s in the piece, an E string extension is required. Otherwise the low D’s must be performed an octave higher. If an extension is available, it is opened to D in measure 27 while the F# sustains. The following harmonics in measure 28 are performed by touching the string over the notes indicated. The sustaining pitches produced sound two octaves higher. After the fermata, the bridge of the song is performed in a swing tempo.

Measure 29 comps in beats three and four, filling between the melodic phrases and helping setup the new tempo. The harmony also reflects a half diminished quality changing to a dominant tonality for the next bar. Measures 31 through 34 utilize a semi-walking bass-line accompaniment. Measures 35 through 38 generate the swing feel through the syncopated punches in the accompaniment.

In the final II-V-I of the song, the IV chord is substituted for the II chord. This allows for a full voicing behind the F melody note that wasn’t as readily available with the E minor chord. The final chord of the piece in measure 44 includes an artificial harmonic, where the E harmonic is slid up a half-step to the F. This technique is described in chapter 7 in example 7.6. Once again, the low D is performed an octave higher if there is no extension.
“La Pasionaria”

This arrangement of “La Pasionaria” for solo bass was originally intended as an unaccompanied introduction to an arrangement with a full band. The band enters at the top of the form after the bass cadenza.

The harmonic arrangement begins with a pedal point on the five, sustaining on an A. In measure four, the pedal switches to the root, a D. This pedal remains for the entire first A-section. The second A-section begins at measure 17 and provides a harmonic variation through a moving bass-line. While these double stops are not articulate at the same time, the notes sustain and ring together producing a rich sonority. Measures 21 through 23 ornament the melody with chord tones in a pattern of triplets. Care should be taken to allow as many notes to ring simultaneously as possible.

Measure 33 begins the cyclic harmonic section of the song. The first eight bars are played freely. The second eight bars are performed in tempo to provide a variation. The melody notes and changing bass notes are sufficient to outline the harmonic progression through the cycle, as the melody alternates between sevenths and thirds.

“Goodbye Pork Pie Hat”

Dave Holland’s solo bass arrangement of “Goodbye Pork Pie Hat” is striking because it successfully combines use of tempo, rubato, and harmonic simplification to perform a very harmonically complex song on the double bass. Holland performs the melody statements freely in a rubato style while maintaining clear melodic phrasing. He uses double stops primarily to outline the roots of the chords throughout. He also uses greatly varied rhythms, ornamentations, and expressive techniques in a very musical
context. It should also be noted that Holland facilitates this performance by performing it in an E tonality instead of F, the original key.

For the introduction, Holland vamps from an E minor seventh chord to an A dominant seventh chord. Measures one and two utilize bass notes, sevenths, and thirds as double stops to outline the harmony while filling the spaces with melodic improvisation.

The thirty-second-note figure in measure five is performed as a combination of hammer-ons and pull-offs with the left hand, which does not require articulating every note with the right hand. The double stop parallel fifths in measure six are very effective and playable. They chromatically outline the D7 chord changing to the Emin chord.

After the first melody statement, Holland returns to the Emin7 to A7 vamp and improvises freely with no tempo. The second melody statement is very similar to the first but provides several variations. Especially notable are the implied swing-feel rhythmic comps that begin in measure 25. The real solo improvisation section begins at measure 29. Holland chooses to solo over the Emin7 to A7 vamp rather than the whole form of the song. He also chooses to go into a swing-feel tempo, increasing movement and excitement. Both devices are very effective and could be applied to various other arrangements for variety and practicality.

“Tennessee Waltz”

This arrangement of “Tennessee Waltz” begins with a passage comprised of harmonics. These harmonics are all performed high on the neck of the bass, not in root position. (Remember that the harmonic series of nodes on a string is a mirror image from the octave harmonic at the mid-point of the string.) Performing these harmonics close to the bridge increases the tension of the string, allowing the harmonics to be more strongly
voiced. However, the harmonic chords in measures 7 and 8 are performed in root position. The best way to pluck these harmonics as a chord so they ring out strongly is to strum the strings with the thumb high up on the fingerboard, very close to the nut. (The performer actually strums on the opposite side of the strings.) This technique is utilized again in measures 22 and 38.

In measure ten, a three note chord is voiced by means of sustained arpeggiation. This technique is common throughout the piece. The triplet passages in measures 23 to 26 are performed in the same manner. Example 8.4 shows the triplet chords in measures 23 through 25.


The triple stop is plucked in a “raking” manner, starting from the top string. This technique occurs again in measures 17 and 33. The minor sixths in measure 28 are performed by using the G and A strings and utilizing the “pinching” plucking technique with the right hand finger and thumb. Beginning at measure 30, a harmonic substitution is used to provide harmonic interest and a linear moving bass-line.
Chapter 9

CONCLUSION

Many techniques and devices have been presented in this paper to assist in the arrangement and performance of unaccompanied jazz double bass solos. Intervals, double stops, triple stops, and voice-leading concepts were presented, then applied to chords, then applied to harmonic progressions, and finally applied to melodic accompaniment. The practice and use of double bass harmonics was also examined in the context of solo bass self-accompaniment and performance, particularly in a polyphonic context. The resulting unaccompanied arrangements illustrate many techniques, ideas and concepts for use in various jazz songs.

When immersing oneself in these advanced techniques for polyphonic performance, it is important to remember that the greater musical context outweighs an overly-complicated accompaniment. Sometimes a two-note voicing is the perfect self-accompaniment, such as in Ray Brown’s swinging rendition of “Things Ain’t What They Used To Be.”

As with most aspects of jazz, it is very important to aid the study of unaccompanied bass solos by listening to recordings. Some suggested recordings for further study include: the Mitchell-Ruff duo, with Willie Ruff on bass; Sheila Jordan’s bass and vocal recordings, especially with bassist Harvie Swartz; Dave Holland’s two unaccompanied bass albums, *Emerald Tears* and *Ones All*; David Friesen’s various
recordings; and Lynn Seaton’s recording *Solo Flights*. One can learn much from the choices of repertoire for unaccompanied solos as well as from the choice of key.

It’s also very important to listen to “how” and “why” something was played along with “what” was played. Often, simple phrases and ideas can be very meaningful with the proper expression and context. With so many choices available, one may be tempted to incorporate every technique in one solo. A more musical approach involves limiting oneself to those techniques that are necessary to achieve a cohesive, musical result. The arrangement presented here for “Alone Together” is a good example of this type of approach.
List of References


APPENDIX

Bass Solo Arrangements
Things Ain't What They Used to Be

Mercer Ellington
Arranged by Ray Brown
Transcribed by Jamie Ousley

Swing

mf

D7

G7

R.H. Slap!

D7

R.H. Slap!

A7

D7

ff
Alone Together

Dietz & Schwartz
Arranged by Jamie Ousley

Freely
D min E7b5/Bb D min6/B A 7/C#

D min D7 G min/Bb G min/D

B min7 E7 G min7 C7 FMaj7 F7 E min7b5 A 7

D Maj7 E min7b5/Bb A 7 D min E min7b5 A 7

D min E min7 A 7 D min A min D 7

G min/Bb G min B min7 E7 G min7 C7

F E min D Maj7 (Open D Extension) Swing Tempo
LARRY J. OUSLEY, JR.

Vita

Larry James Ousley, Jr. is a doctoral student of Jazz Bass Performance at the University of Miami. He was born in Johnson City, Tennessee, and attended public and private schools in Tennessee and Virginia. He earned his Bachelor of Arts degree in music from Virginia Polytechnic Institute and State University in 1998 and his Master’s degree in Jazz Bass Performance from the University of Miami in 2000.

Ousley has performed internationally as a double bassist in professional and academic settings. He served as principal bassist for the New River Valley Symphony in Blacksburg, Virginia; the Master Chorale Orchestra in Blacksburg, Virginia; the Radford University Chamber Orchestra in Radford, Virginia; the Miami Chamber Orchestra in Miami, Florida; and The Palm Beach Pops in Palm Beach, Florida. He has performed and recorded with the University of Miami Concert Jazz Band, Symphony Orchestra and Wind Ensemble, and with the Virginia Tech New Virginians, Jazz Orchestra, and Jazz Lab.

Ousley has received numerous awards and has been privileged to represent the University of Miami as a performer in two International Association of Jazz Educators conventions. He has received numerous “outstanding” awards from the Down Beat student competition and won the 2001 Down Beat award for best small group recording with the University of Miami “Bop Brothers” ensemble. His 2007 recording O Sorriso Dela was recorded in Osaka, Japan and features original compositions and an unaccompanied bass solo of the “Tennessee Waltz.”