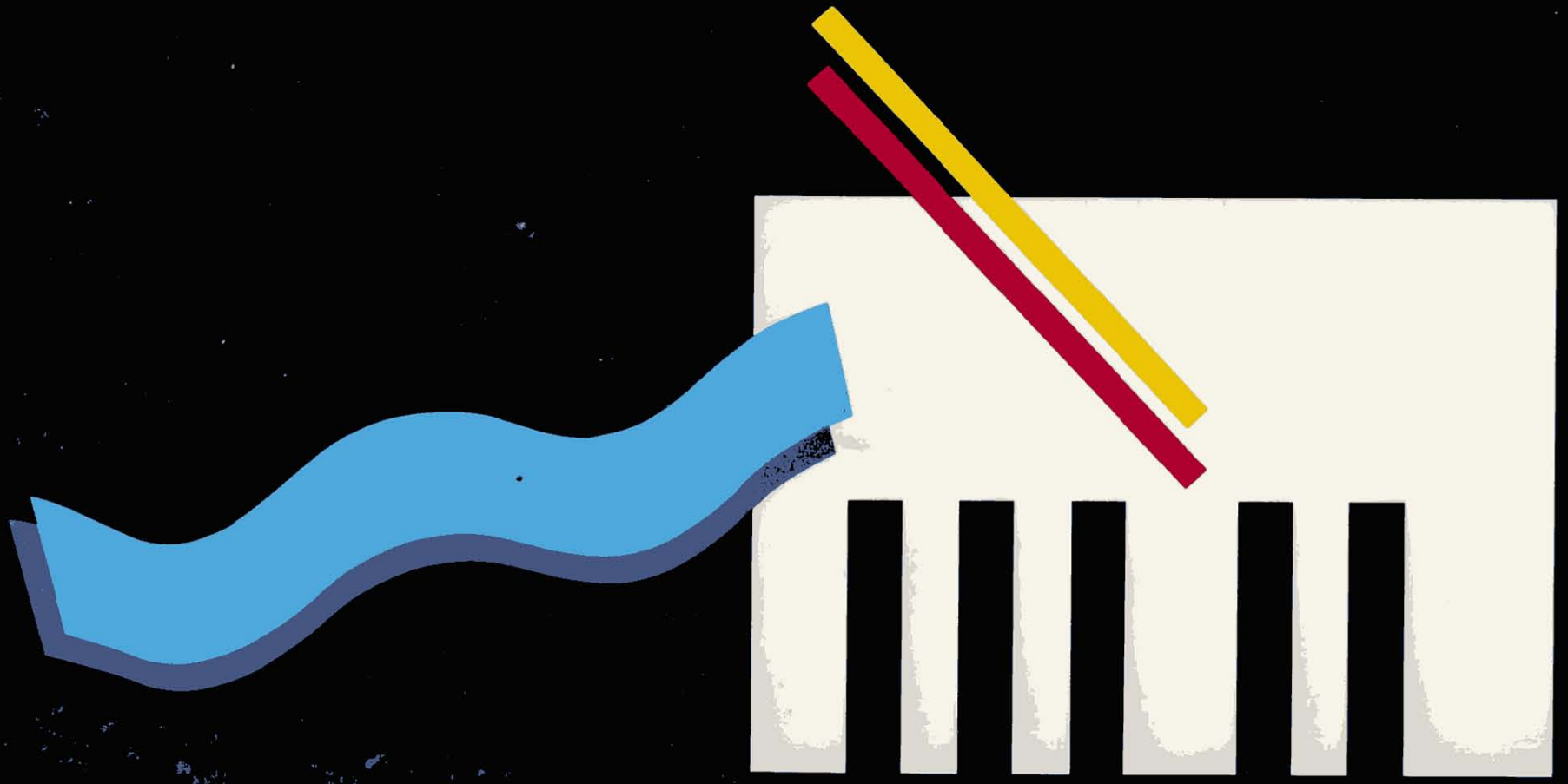
MODERN JAZZ PIANO

A STUDY IN HARMONY AND IMPROVISATION

BRIAN WAITE



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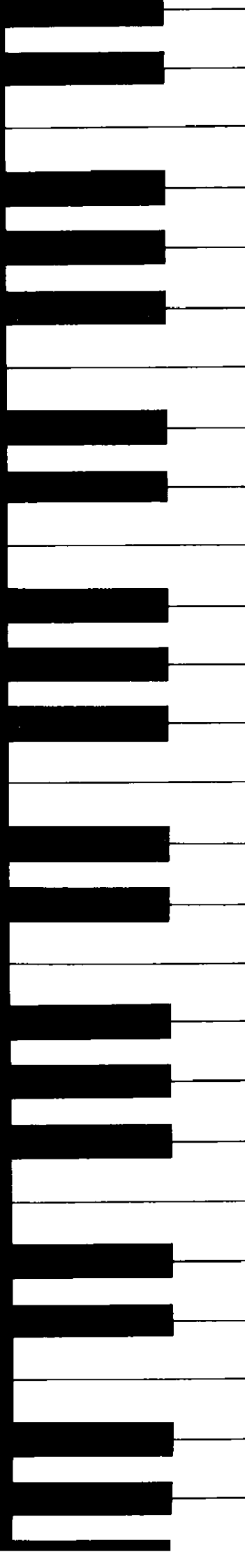

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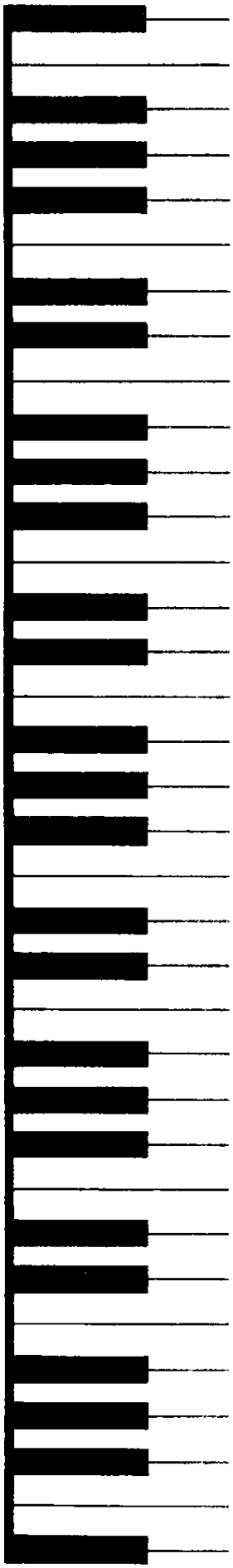

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ACKNOWLEDGEMENTS

My thanks are due to the many people who by virtue of their help over the years have contributed to this book.

In particular I am indebted to two musicians: Peter Sander, a patient teacher with whom I studied jazz piano for four years, and pianist Gordon Beck who has been a constant source of inspiration and encouragement. Without their support this book would never have been written.

PREFACE

It is not possible to acquire the skills of any of the performing arts just by reading a book and this is particularly so in the case of jazz. Nevertheless, as in all things, an understanding of the underlying principles can play a large part in the development of such skills and it is hoped that this book will make a contribution by providing the necessary groundwork.

To my knowledge the diversity of subject matter discussed in the following pages has not been dealt with in a single volume before, although there are other jazz text books available which will provide a rich source of further reading and these are listed in the bibliography.

The idea to write such a book was conceived after pianist Gordon Beck had invited me to assist in the teaching of jazz piano at the Treforest Summer School. This was formerly the Barry Summer School started in 1967 at which time it was the only residential jazz course of its kind in Great Britain. It was as a student in the early years of the School that I had the fortune to meet and learn from some of Britain's foremost jazz players and it has been my further good fortune to have an opportunity to pass on that knowledge to other students.

This book has been designed to cater for beginners and more advanced players alike and it is hoped that it will be found as useful to the non-keyboard player as to the aspiring jazz pianist.

In understanding the theory the usefulness of the piano cannot be over-emphasised for it is at the keyboard that harmonies can be heard en bloc and this is as much an asset to the horn player as to the pianist. It is not necessary for the horn player to be proficient at the keyboard to play the examples of harmonies in this book. Played as block chords, however slowly, they will provide an insight into the pianist's role as a member of the rhythm section.

A participation in music at any level involves a continual learning process and for this reason alone it would be impossible to write a book which is completely exhaustive. However, I am confident that even the most advanced player will find something in these pages which will serve as a springboard for further developement.

1. FUNDAMENTALS

1.1 INTRODUCTION

It would be difficult to understand the theory of jazz piano without first grasping the basic principles of melody and harmony applicable to all forms of music. Although such matters are dealt with extensively in other works I think it is important to include them here as a foundation for more advanced study.

I have had to assume some very basic knowledge on the part of the reader but if there is any difficulty for absolute beginners the bibliography will be found useful.

In writing this section I have attempted to be as brief yet concise as possible and I have avoided venturing into areas which are not directly relevant to the art of jazz. I have also related everything to the major scale for simplicity. The minor scale is introduced in Section Two, the theory being the same for both scales.

1.2 TO READ OR NOT TO READ

The ability to read music varies with individuals, ranging from the non-reader to the highly proficient sight reader.

The session player, with all the demands that studio work imposes, must of necessity fall into the latter category. At the other extreme, there are excellent jazz players who cannot read a note or chord.

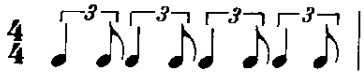
Clearly, every musician should aspire to be a good reader for all the advantages that it has to offer and for most players this will involve diligent practice and hard-won experience. However, the examples in this book do not require a high level of reading skill. In fact, if the theory is understood it is possible to play them with nothing more than a familiarity with the notes of the stave as they relate to the keyboard.

On a different level, the ability to read chord symbols is essential, particularly for the pianist who, as a member of a rhythm section, will frequently be presented with a chord chart. In this respect I have devoted one section of the book to chord symbols for they can be a source of confusion due to the different ways they can be written.

I do not propose to dwell at length on the subject of reading for it is adequately covered elsewhere and an in-depth study would be beyond the scope of this book. Despite this I feel that two pieces of advice would not be out of place here. First, it must be understood that in reading music, jazz involves a different interpretation to classical forms, a triplet feel being used in jazz, as shown in the example below:

WRITTEN:

PLAYED:



Second, it is important to avoid reading material which is far too difficult as this may result in the rhythmic continuity being broken and probably the player's confidence also!

If any reader is totally unfamiliar with musical notation he would do well to refer to one of the books listed in the bibliography, one section of which is devoted to basic music.

Where examples are given on the stave, I have deliberately avoided transposing into all keys. The player should do this for himself without reference to written music. This way he will gain a better understanding of the structure of chords and scales and develop a visual memory of their shapes. In short, he will develop a sense of architecture of the keyboard.

1.3 SCALES

Scales are the building blocks of music and have an important role to play in improvisation. The scale with which most people are already familiar is the *Major Scale* for it is the one which is most commonly used in popular music forms, the easiest example being the sequence of 'white' notes from C to C'.

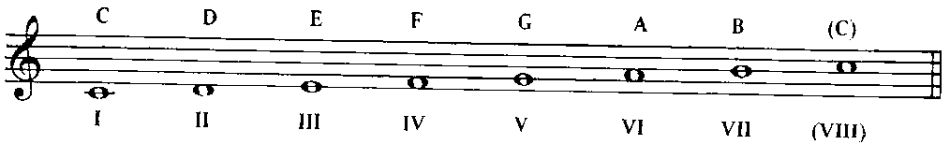
This scale represents the tip of a large iceberg for there are many others which can be formed to create a musical pathway between two notes which are an octave apart. The variety of scales will be considered in a later section in connection with improvisation.

For the present purpose the major scale will serve to illustrate some basic principles and for simplicity the scale starting on C will be used in the examples.

ie C D E F G A B C

Each note or *degree* of the scale has a name and a Roman numeral which give an indication of its function and position within the scale. These are as follows:

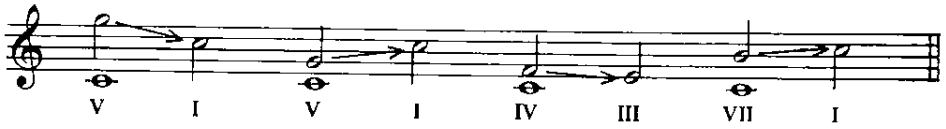
C	I	TONIC
D	II	SUPERTONIC
E	III	MEDIANT
F	IV	SUBDOMINANT
G	V	DOMINANT
A	VI	SUBMEDIANT
B	VII	LEADING NOTE
C	(VIII)	(TONIC)



The *tonic* (I) defines the starting point or tonal centre and is therefore the most important note in the scale. The *dominant* (V) is fairly central in the scale and is next in importance. It has a melodic tendency to move up or down to the tonic. The *subdominant* (IV) is just below the dominant and has a melodic tendency to move down to the mediant. The *mediant* (III) is so called because it lies midway between the tonic and the dominant. Likewise the *submediant* (VI) lies midway between the subdominant and

the upper tonic. The *supertonic* (II) is is just above the tonic and the *leading note* (VII) is so called because it has a strong tendency to lead up to the tonic.

This tendency for melodic movement is important in understanding harmonic progression, as will be seen later. In order to appreciate this movement the tonic has to be played first to establish the tonal centre.



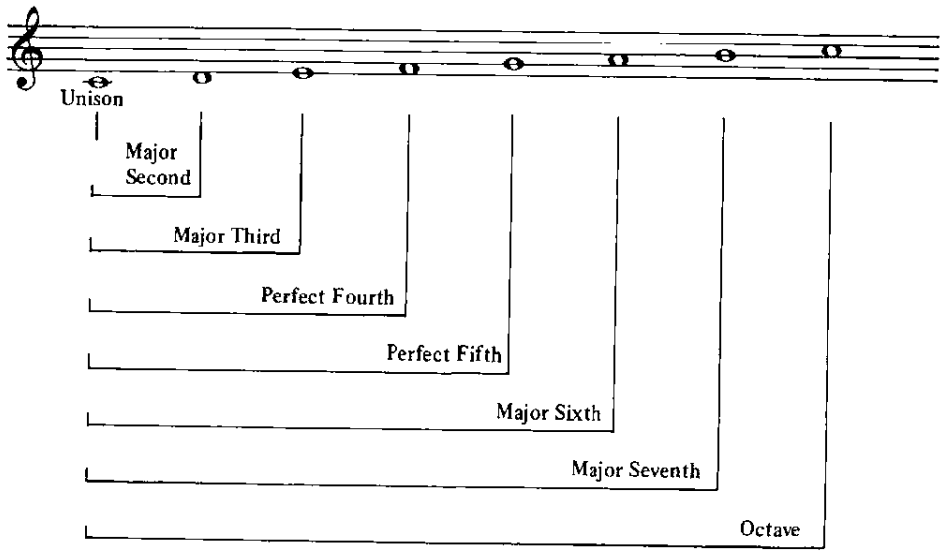
1.4 INTERVALS

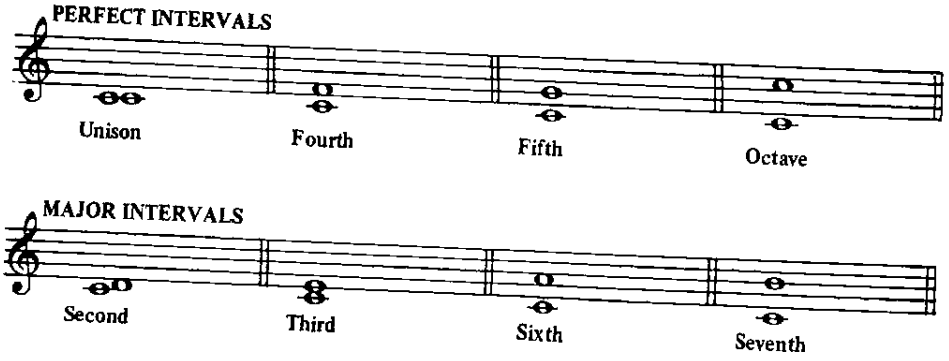
The musical distance between two notes is known as an *interval*. In Western music the smallest interval is the *semitone* or *half-tone* and is the distance between adjacent notes such as C and D♭ or E and F. It follows logically that an interval comprising two semitones is a *tone* or *whole-tone* as for example between F and G or B♭ and C.

It would be possible to describe any interval in terms of the number of tones and semitones it contains but this would be a cumbersome means of identification. An interval is properly identified according to type and size. There are five types of interval:

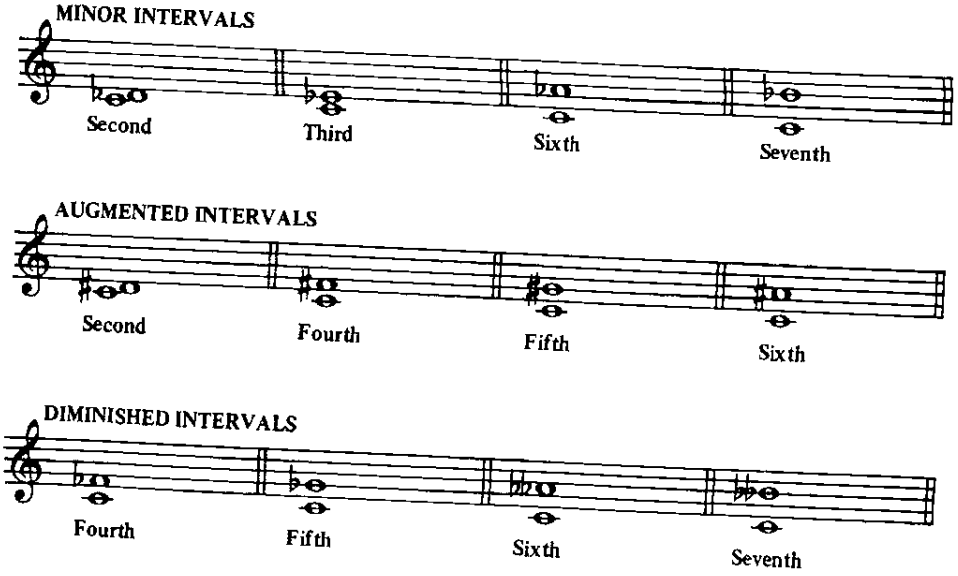
PERFECT
MAJOR
MINOR
AUGMENTED
DIMINISHED

The size of an interval is described numerically and can be explained by reference to a scale. The interval between I and II is a *second*; that between I and III is a *third*; that between I and IV is a *fourth*; and so on. However, the type of interval will differ according to the scale used. If we consider the major scale with the tonic as a reference, the intervals which occur naturally are as follows:





The unison, fourth, fifth, and octave are *perfect intervals*. The second, third, sixth and seventh are *major intervals*. If a major interval is reduced by a semitone the result is a *minor interval*. If a perfect or major interval is raised by a semitone the result is an *augmented interval*. If a perfect or minor interval is reduced by a semitone the result is a *diminished interval*.

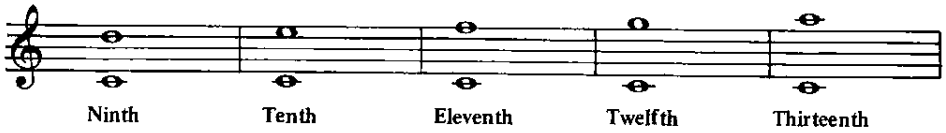


We now have a means of identifying every interval within an octave, taking account of all the semitones.

1.5 COMPOUND INTERVALS

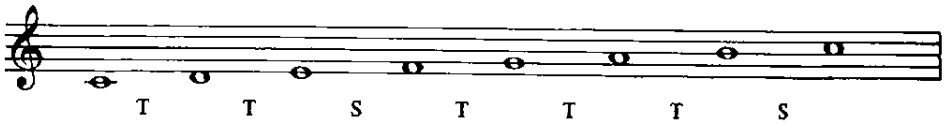
When an interval exceeds an octave it is said to be compound. Such intervals are also given numerical descriptions as follows:

OCTAVE	+	SECOND	=	NINTH
OCTAVE	+	THIRD	=	TENTH
OCTAVE	+	FOURTH	=	ELEVENTH
OCTAVE	+	FIFTH	=	TWELFTH
OCTAVE	+	SIXTH	=	THIRTEENTH



1.6 TONES AND SEMITONES

I started the section on intervals by refering to tones and semitones. We have now seen that these intervals could be alternatively described as major and minor seconds respectively. However, the concept of tones and semitones is useful in describing the construction of scales in terms of successive intervals. Considering the scale of C major, we see that the interval construction is as follows:



The interval sequence T T S T T T S is unique to the major scale wherever it starts. If a major scale is to be commenced on any note other than C, 'black' notes will have to be introduced to maintain this pattern of intervals. Hence the need for key signatures for different scales. All other types of scale have a unique sequence of intervals which can be described by this method.

1.7 INTERVAL SHORTHAND

It is often convenient to use a shorthand method to describe intervals. As this is used in a later section of the book I have included it here for reference and it is as follows:

MINOR SECOND	m2
MAJOR SECOND	M2
MINOR THIRD	m3
MAJOR THIRD	M3
PERFECT FOURTH	p4
AUGMENTED FOURTH	a4
DIMINISHED FIFTH	d5
PERFECT FIFTH	p5
AUGMENTED FIFTH	a5
MINOR SIXTH	m6
MAJOR SIXTH	M6
DIMINISHED SEVENTH	d7
MINOR SEVENTH	m7
MAJOR SEVENTH	M7

There is no need to include the unison and octave in this shorthand system.

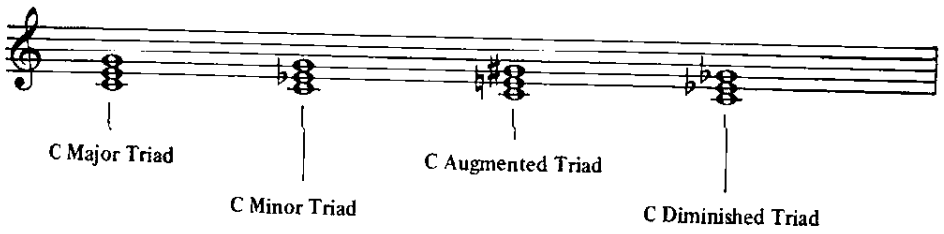
1.8 BASIC HARMONY

Harmony is defined as the simultaneous sounding of two or more notes and the result of such combination is a chord. In Western music the basis for the harmonic system is a chord comprising three notes and known as a *triad.*

A triad consists of a *root* or *fundamental note,* a *third* and a *fifth.* There are four types of triad, each having a different combination of intervals. These are as follows:

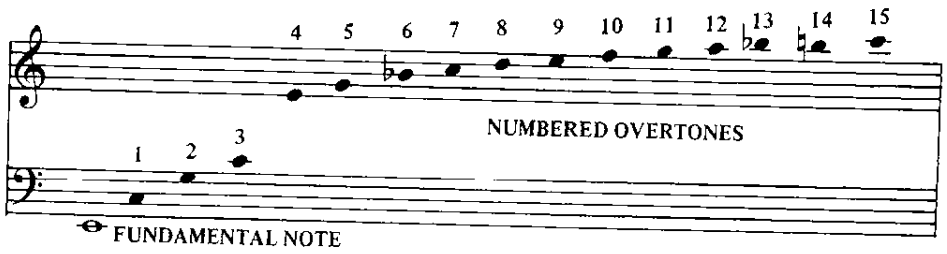
MAJOR TRIAD	major 3rd	perfect 5th
MINOR TRIAD	minor 3rd	perfect 5th
AUGMENTED TRIAD	major 3rd	augmented 5th
DIMINSHED TRIAD	minor 3rd	diminished 5th

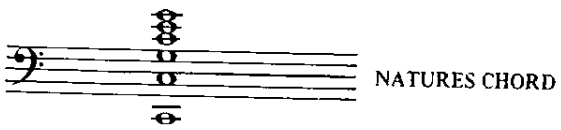
In the example below, the four types are shown on the same root for comparison:



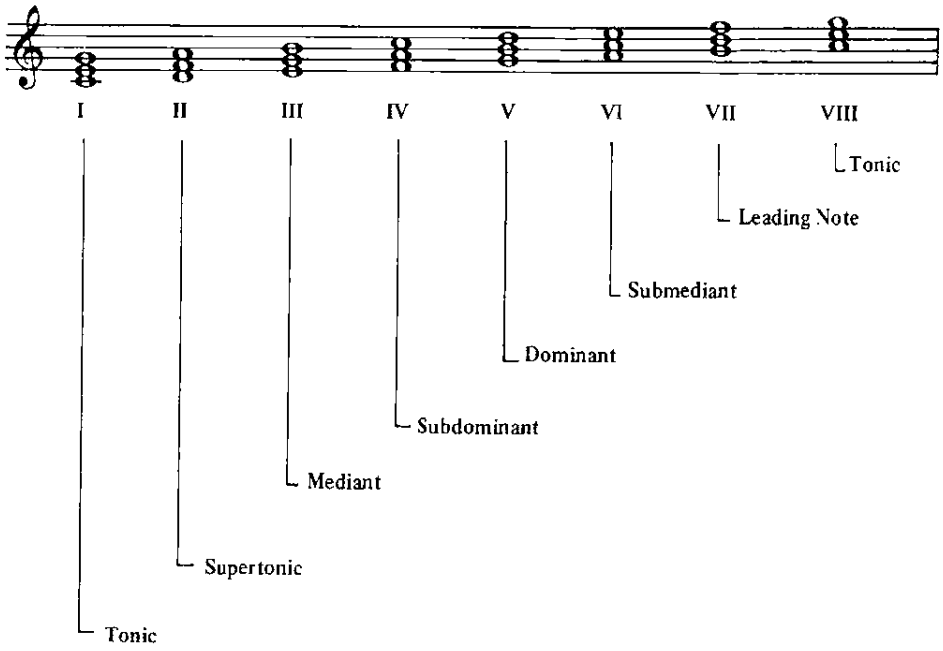
Note that the third determines whether a chord is a major or minor.

The major triad is a naturally occurring phenomenon. When a single note is played on the piano the vibrations set up within the string are complex and in addition to producing the predominant fundamental note, they also create higher notes known as *overtones* or *partials.* These are weaker than the fundamental, although a good ear will be able to hear the first three or four overtones. The series of notes thus produced is known as the *harmonic series* and the fundamental note together with the first five overtones are the constituent notes of a major triad. This is known as *Nature's Chord.*





A triad can be played on each note of a scale and each triad thus formed will have the same name and Roman numeral as the note on which it is based.

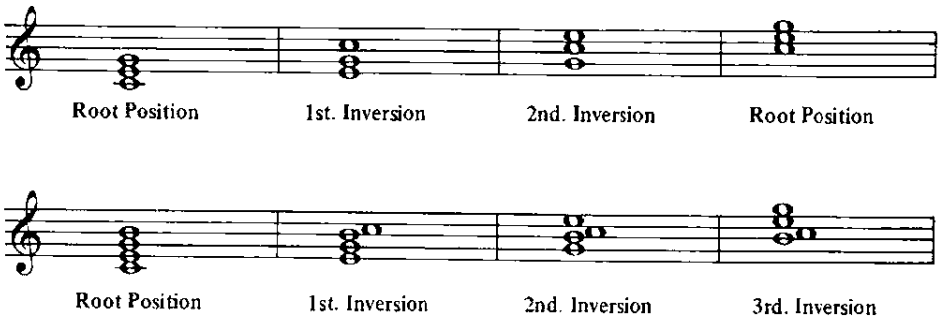


Note that in the major scale, the triads on I, IV and V are major. Those on II, III and VI are minor and the triad on VII is diminished.

1.9 INVERSIONS

When a chord is played with the root as the lowest note it is said to be in *root position*. If the root is transposed to the top of the chord leaving the third as the lowest note, the chord is said to be in its *first inversion*. If the third is now transposed in the same way the fifth becomes the lowest note and the chord is in its *second inversion*.

This principle can be extended to a four-note chord which has three inversions. It is illustrated in the following example:



1.10 CHORD PROGRESSIONS —CADENCES

Harmonic movement from one chord to another is known as a chord progression. For our purposes the study of such progressions can be simplified by understanding a few basic principles.

In the section on scales it was pointed out that I, IV and V were the most important notes. The same is also true of the triads and for this reason, I, IV and V are known as *primary* triads. The other triads are known as secondary.

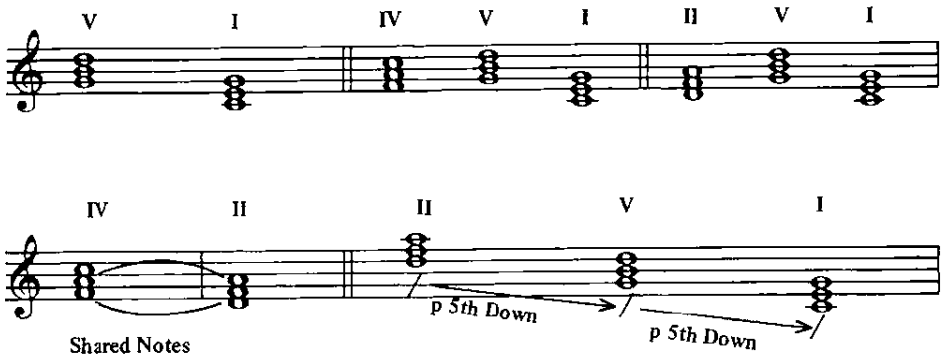
The primary triads are important because they establish tonality in music. After the tonic, the dominant is the most important chord in any key and this has a strong tendency to move to the tonic. This is the most important chord progression of all, *ie* dominant to tonic or V to I, and it is the key to an understanding of all jazz harmony. The progression V to I is known as a *Perfect Cadence* and can be described as a musical full-stop. If this progression is preceded by another chord, the movement from that chord to V is known as an *Imperfect Cadence* or *Half-Close*. In traditional harmony, V is often preceded by the IV chord. We then have an extended progression IV to V to I.

> *ie* subdominant—dominant—tonic
> imperfect cadence→perfect cadence

Each of the secondary chords, II, III, VI and VII also have a role to play in the harmonic system but for the time being we will only consider the use of the supertonic II chord.

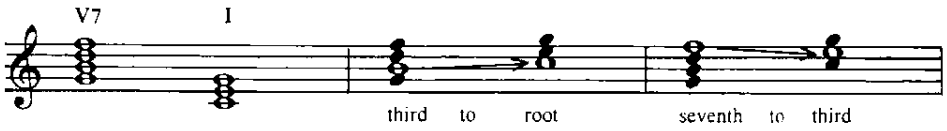
The II chord, like the subdominant (IV) often precedes V. In fact II and IV are closely related for they have notes in common and the chords are interchangeable.

If the substitution is made we now have a new progression II—V—I in which the supertonic is behaving like a subdominant. This alternative progression is important because the two chord changes II to V and V to I each involve a downward movement of a fifth in the bass and this is particularly strong in jazz harmony.



1.11 THE DOMINANT SEVENTH

The progression V—I is made stronger by the addition of a seventh in the dominant chord. To achieve this, a fourth note is added to the basic triad a minor seventh from the root. When this note is added the resulting discord from the minor seventh interval between the root and the seventh makes the chord feel unresolved. In the progression V—I the seventh in the dominant chord resolves to the third of the tonic and the third of the dominant chord resolves to the root of the tonic. Note that the dominant seventh is written with an Arabic numeral.



Seventh chords can also be constructed on the other notes of a scale and are known as *secondary sevenths*. These are explained in Section Two.

1.12 CONCLUSION AND SUMMARY

The section on fundamentals is now concluded. To summarise:

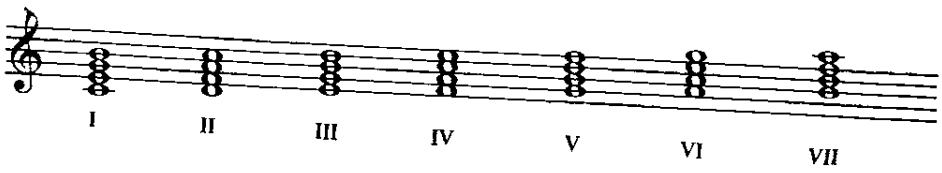
(1) Aspire to learn or improve the reading of music.
(2) Scales are the building blocks of music and are a basis for improvisation.
(3) The notes and chords which relate to scales have specific functions and are numbered I to VII.
(4) The most important chord progression in jazz harmony is the sequence II—V—I.

2. THE CHORD SYSTEM

2.1 SEVENTH CHORDS (MAJOR SCALE)

The simple chords or triads discussed in Section One can be expanded to include a fourth note a seventh from the root. Seventh chords can be played on each note of a scale. Like the single notes of the scale, the chords have names and Roman numerals indicating their function and position in the scale. The names used are the same as for the single notes and the seventh chords formed in a major scale are as follows:

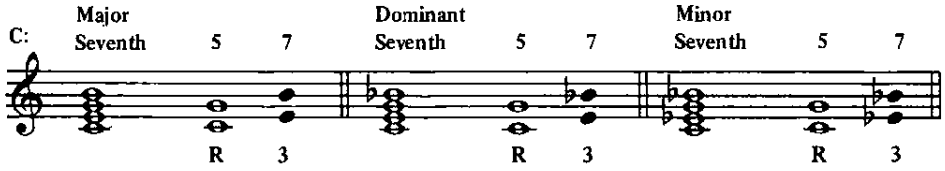
I	TONIC	MAJOR SEVENTH
II	SUPERTONIC	MINOR SEVENTH
III	MEDIANT	MINOR SEVENTH
IV	SUBDOMINANT	MAJOR SEVENTH
V	DOMINANT	DOMINANT SEVENTH
VI	SUBMEDIANT	MINOR SEVENTH
VII	LEADING NOTE	HALF DIMINISHED SEVENTH



The I, II and V chords from the major scale are major, minor and dominant sevenths respectively. The following table shows the way in which each of these three chords is constructed in terms of the intervals within them.

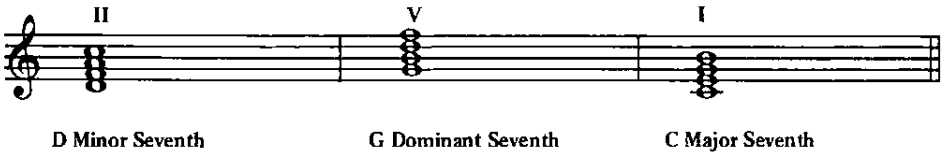
CHORD TYPE	ROOT	INTERVALS FROM THE ROOT		
		THIRD	FIFTH	SEVENTH
MAJOR SEVENTH	R	MAJOR	PERFECT	MAJOR
MINOR SEVENTH	R	MINOR	PERFECT	MINOR
DOMINANT	R	MAJOR	PERFECT	MINOR

Note that the third and seventh are the only intervals which vary in this table and it is these intervals in their different combinations which determine the chord type. If each type of chord is played with the same root, the root and fifth would remain the same in each case and these are sometimes referred to as *stationary notes.*



Using seventh chords the progression II-V-I becomes:

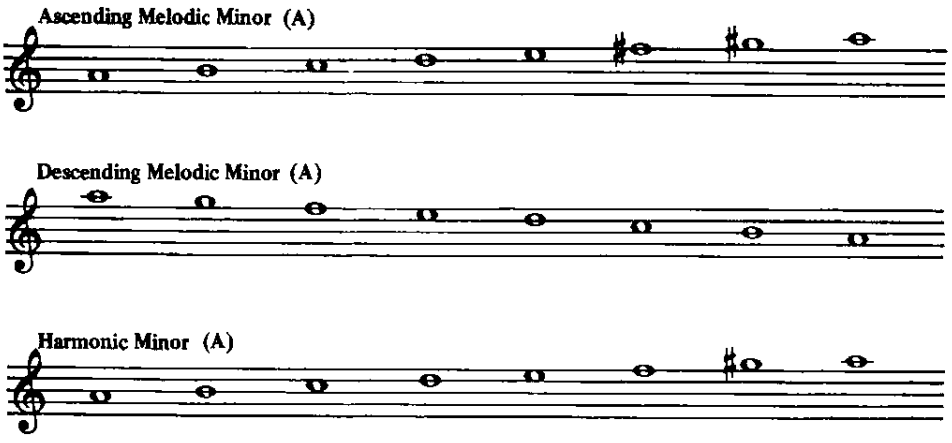
minor seventh – dominant seventh – major seventh.



2.2 SEVENTH CHORDS (MINOR SCALE)

The minor key and scales have been deliberately omitted thus far for the sake of simplicity. The theory hitherto applied to the major scale applies equally to the minor scale. The functional names and numbering of the chords in the minor scale are the same as for a major scale although the chord types are different. Once again, the progression II-V-I is of prime importance.

The construction of the minor scale is quite different to the major and there are two types of scale: *Harmonic Minor* and *Melodic Minor.* The melodic minor scale has two forms; ascending and descending. Although both the harmonic and melodic minor scales are used in improvisation, it is the harmonic minor scale which is best suited to a study of the minor scale chords.



The interval construction of the harmonic minor is:

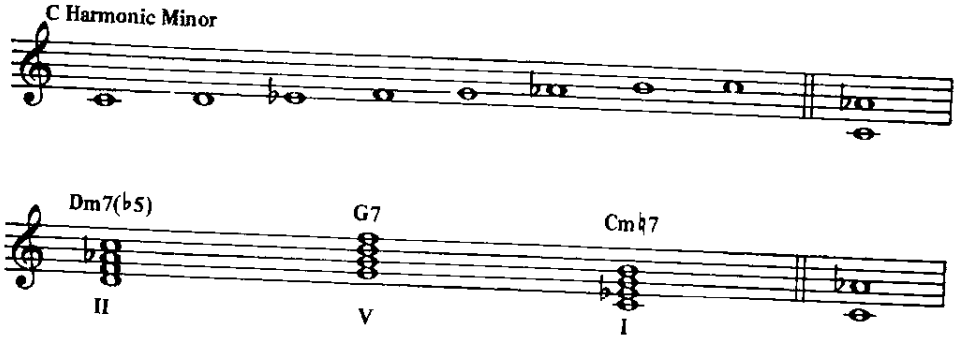
T S T T S m3 S

and the chords derived from the scale are shown in the following table:

		TRIAD	SEVENTH
I	TONIC	MINOR	MINOR/MAJOR SEVENTH
II	SUPERTONIC	DIMINISHED	HALF DIMINISHED SEVENTH
III	MEDIANT	AUGMENTED	AUGMENTED MAJOR SEVENTH
IV	SUBDOMINANT	MINOR	MINOR SEVENTH
V	DOMINANT	MAJOR	DOMINANT SEVENTH
VI	SUBMEDIANT	MAJOR	MAJOR SEVENTH
VII	LEADING NOTE	DIMINISHED	DIMINISHED SEVENTH

Using the seventh chords from the minor key, the progression II-V-I becomes:

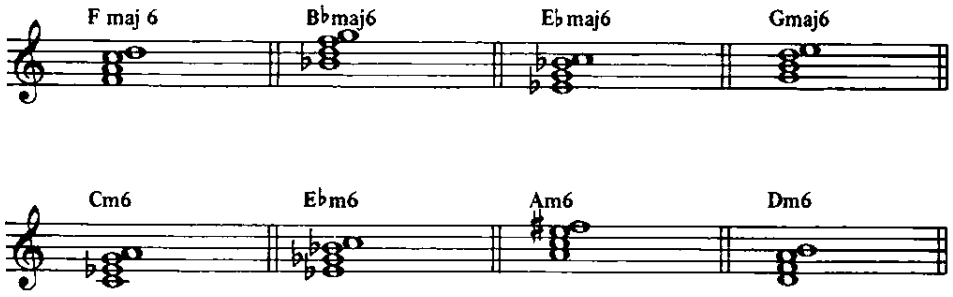
half-diminished seventh-dominant seventh-minor/major seventh.



Note that the supertonic (II) in the minor key is a half-diminished chord. This is because the fifth note of the scale and the fifth of the chord form a diminished fifth interval with the root and not a perfect fifth as in the minor seventh. Because this is the only difference from the minor seventh chord, the half-diminished is also referred to as a *minor seventh flattened fifth* chord or *minor seven flat five*.

2.3 SIXTH CHORDS

The tonic chords, *ie* the major seventh and minor/major seventh both contain a major seventh from the root. The major seventh can, at the player's discretion, be replaced by a major sixth as shown in the following examples:



In these examples the sixth is a constituent of the basic chord. It can only be used in this way on a tonic chord. If a 'sixth' is added to a dominant chord it is more correctly a 'thirteenth', being an embellishment rather than a basic constituent.

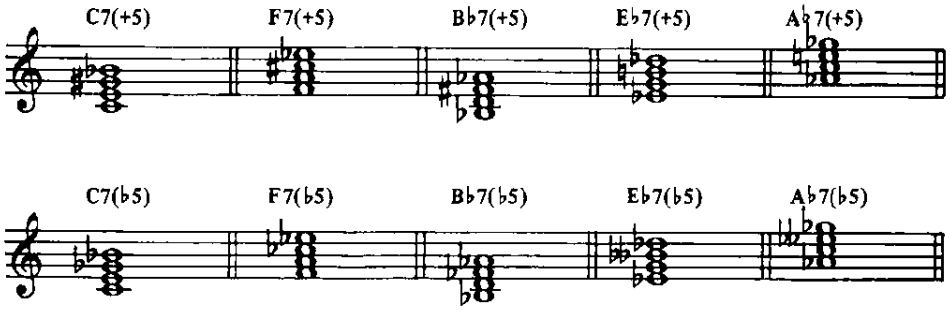
2.4 ALTERED DOMINANT SEVENTHS

The basic dominant seventh can be altered in two ways:

(a) by raising the fifth (sharp).
(b) by lowering the fifth (flat).

The dominant seventh with a raised fifth is also known as an *augmented seventh* chord.

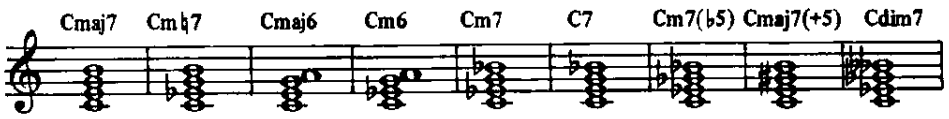
These altered fifths are integral parts of the chords. Unlike the normal dominant seventh, the chords do not contain a perfect fifth.



Note:
C7(+ 5) = C7(aug)

2.5 READING AND WRITING CHORD SYMBOLS

By studying the chords within the major and minor scales we have encountered every basic chord type. Writing an example of each of these chords on the same root enables them to be easily compared at the piano. A chord symbol is added with each example.



Chord symbols are a source of confusion owing to the different ways they can be written. The symbols used in the above example are explicit but are not the only ones in common use. In the following table I have listed the basic chord types with their alternative chord symbols. The chords of C are used as examples:

Table of Chord Symbols

CHORD TYPE	SYMBOLS
MAJOR SEVENTH	Cmaj7 CΔ7 CM7 C
MAJOR SIXTH	C6 Cmaj6 CM6
MINOR SEVENTH	Cmin7 Cm7 Cmi7 C-7
MINOR SIXTH	Cmin6 Cm6 Cmi6 C-6
DOMINANT SEVENTH	Cdom7 C7 Cx
DIMINISHED SEVENTH	Cdim C°
MINOR/MAJOR SEVENTH	Cmin♮7 Cm♮7 Cm(♯7)
HALF-DIMINISHED SEVENTH	Cmin7(♭5) Cm7(-5) Cø
AUGMENTED SEVENTH	C7+ C7aug
AUGMENTED MAJOR SEVENTH	Cmaj7+5 CΔ7(+5) CΔ7aug

It may be necessary to indicate a major chord without a seventh. Fortunately, musical context will dictate what is required in most cases but it is safer to write the chord in full.

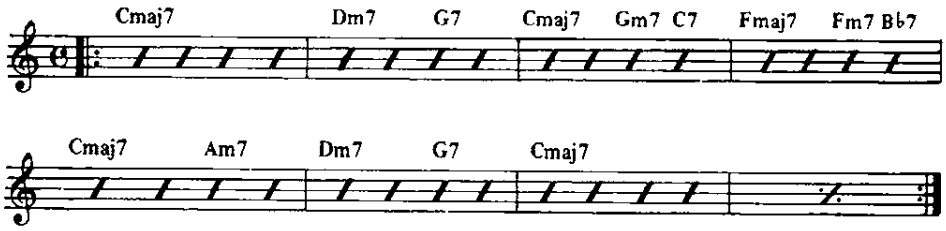
For example:

C add 9 (no seventh)

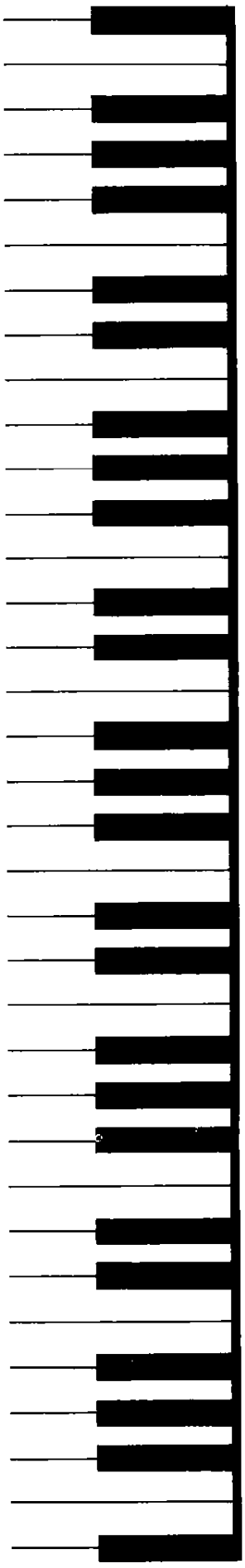
2.6 CHORD CHARTS

Chord charts are the means by which harmonic progressions are written using bars. They are often written on music paper, although this is not necessary unless a particular arrangement needs to be scored using conventional music notation in conjunction with chord symbols.

The following example shows a typical section of a chord chart which could easily be the first sixteen bars of a standard tune:



The strokes indicate beats. Thus in bar 3, C major seventh lasts for the first two beats of the bar. G minor seventh is on the third beat and C dominant seventh is on the final beat of the bar.



3. FUNCTIONAL HARMONY

3.1 TONALITY—THE II, V, AND I CHORDS

The importance of the progression II-V-I has already been established. This sequence denotes tonality. In fact, the shorter sequence II-V is sufficient to establish tonality without resolving to the tonic.

For example:

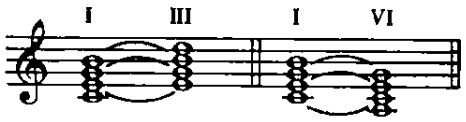
(a) Dm7-G7 denotes the tonality of C major.
(b) Dm7(♭5)-G7 denotes the tonality of C minor.

The scale from which the progression II-V is derived is said to be the parent scale or key. Thus C major is the parent scale of the sequence Dm7 to G7. The following table shows this relationship for the twelve major and twelve minor keys:

MAJOR KEYS		MINOR KEYS	
‖ Dm7 / G7 / ‖	C major	‖ Dm7(♭5) / G7 / ‖	C minor
‖ Cm7 / F7 / ‖	B♭ major	‖ Cm7(♭5) / F7 / ‖	B♭ minor
‖ B♭m7 / E♭7 / ‖	A♭ major	‖ B♭m7(♭5) / E♭7 / ‖	A♭ minor
‖ A♭m7 / D♭7 / ‖	G♭ major	‖ A♭m7(♭5) / D♭7 / ‖	G♭ minor
‖ F♯m7 / B7 / ‖	E major	‖ F♯m7(♭5) / B7 / ‖	E minor
‖ Em7 / A7 / ‖	D major	‖ Em7(♭5) / A7 / ‖	D minor
‖ E♭m7 / A♭7 / ‖	D♭ major	‖ E♭m7(♭5) / A♭7 / ‖	D♭ minor
‖ C♯m7 / F♯7 / ‖	B major	‖ C♯m7(♭5) / F♯7 / ‖	B minor
‖ Bm7 / E7 / ‖	A major	‖ Bm7(♭5) / E7 / ‖	A minor
‖ Am7 / D7 / ‖	G major	‖ Am7(♭5) / D7 / ‖	G minor
‖ Gm7 / C7 / ‖	F major	‖ Gm7(♭5) / C7 / ‖	F minor
‖ Fm7 / B♭7 / ‖	E♭ major	‖ Fm7(♭5) / B♭7 / ‖	E♭ minor

3.2 THE III AND VI CHORDS

We have already seen that the chords III and VI are minor sevenths in the major scale. Unlike the II chord, both III and VI share three notes in common with the tonic.



For this reason they can be used as pseudo-tonics. The VI chord is used frequently for this purpose and is often to be found following the tonic chord.

For example:

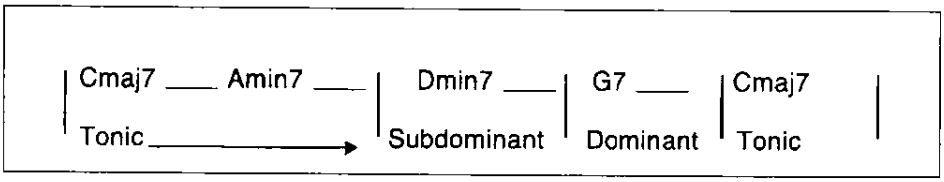
Cmaj7-Amin7 *ie* I-VI

I have already referred to the predominant movement in the bass down in fifths. If this principle is applied to the VI chord we find that it moves to the supertonic II, *ie* VI-II.

For example:

Amin7-Dmin7 (in the key of C major).

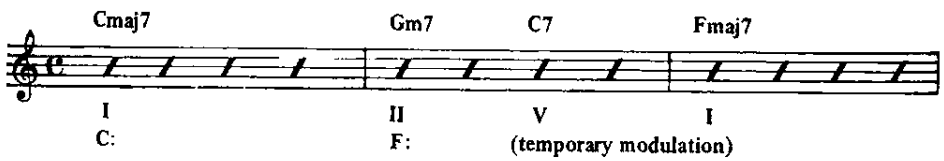
This can now be used to form the extended progression: I-VI-II-V-(I). If this last progression is examined in terms of harmonic function it will be seen that there is a movement away from the tonic to the subdominant and back to the tonic via the dominant. Remember that the II chord functions as a subdominant in this context.



This movement is prevalent in the standard song forms used in Jazz. Most chord sequences follow this format, or a variation of it, irrespective of any trick harmonic devices which may be employed.

3.3 THE IV CHORD

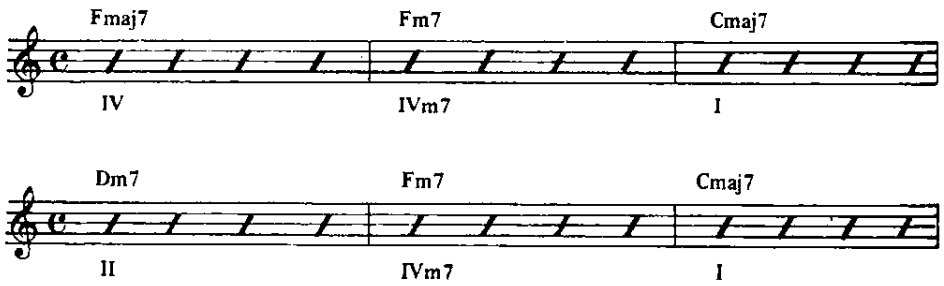
In the major scale the IV chord occurs as a major seventh and can function as a new tonal centre. Many tunes modulate, *ie* change key by shifting the tonal centre from the tonic to the subdominant. Such modulation is usually temporary and the harmonies eventually revert to the tonic. As an example, consider the key of C major. The IV chord is F maj7 indicating a new tonal centre of F major. If we consider this as a new tonic (I) chord we can approach it by playing the appropriate II-V pattern. Starting in the key of C major this can be effected in three bars:



3.4 THE IVm7 AND ♭VII7 CHORDS

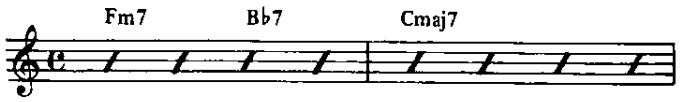
The IVm7 chord can be used as a transition chord between IVmaj7 and Imaj7 or between IImin7 and Imaj7.

For example:

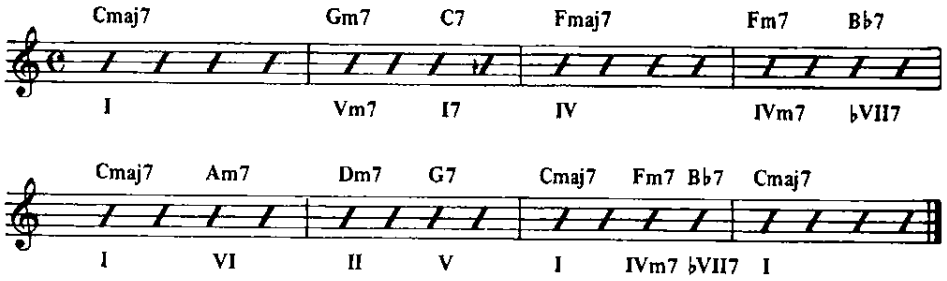


The ♭VII7 chord can be used between IVm7 and Imaj7

For example:



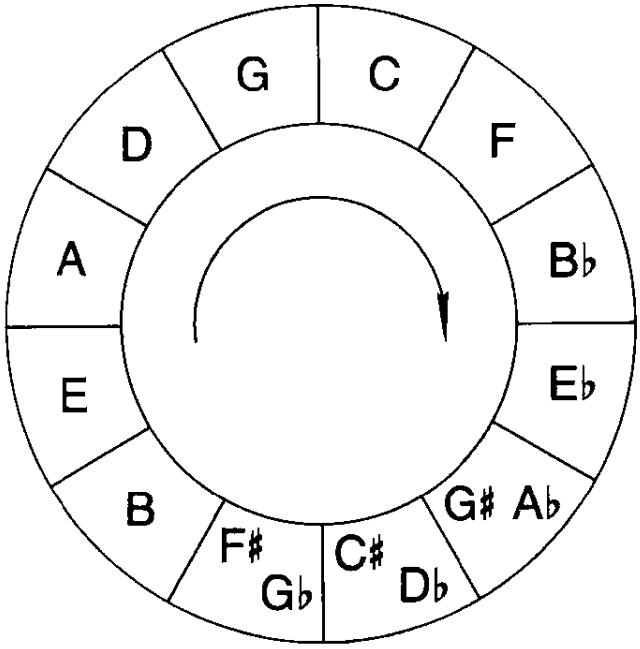
The chords can therefore be used as a means of resolving from IVmaj7 back to the tonic and as a means of enriching the final two bars of a tonic.



3.5 CYCLE OF FIFTHS

A progression in which the roots move down in successive fifths is known as the *Cycle of Fifths,* irrespective of the types of chord used.

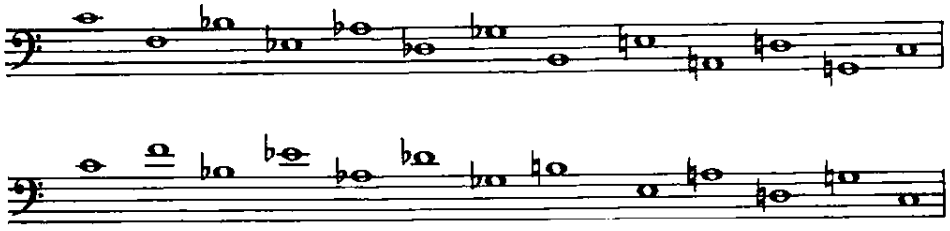
It can be represented in the form of a clock as shown in the accompanying diagram:



This movement is so important it is worth committing to memory, although with experience it will become automatic. For practical purposes it is not possible to play a sequence with the roots continuing downwards indefinitely, and a bass movement upwards in fourths has to be introduced.

The effect of moving up a fourth is the same as moving down a fifth and for this reason the progression can also be referred to as the *Cycle of Fourths.*

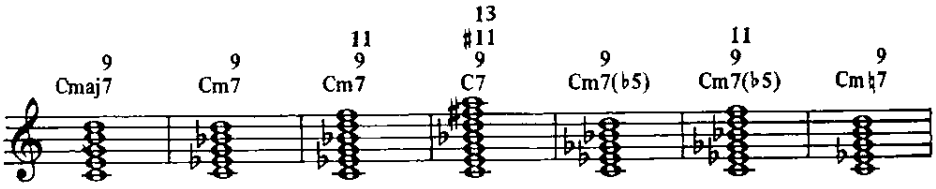
The following two examples show the cycle progression using descending fifths alternating with ascending fourths:



4. EXPANDING THE HARMONIC SYSTEM

4.1 NINTH, ELEVENTH AND THIRTEENTH CHORDS

The seventh chords considered so far have been constructed by adding on successive thirds above the root. This process can be continued beyond the seventh to include ninths, elevenths and thirteenths.



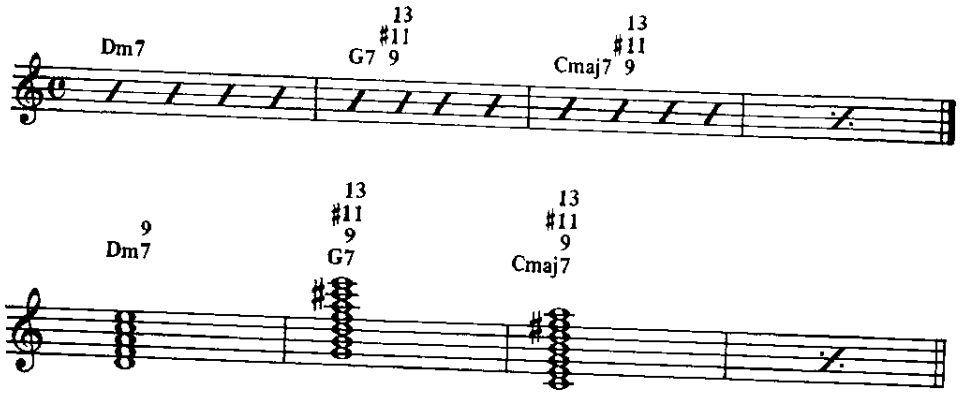
These notes are known as *extensions* and are widely used in modern jazz, adding colour and texture to harmonies, but they have no bearing on the function of a chord. They can also be altered, *ie* raised or lowered by a semitone depending on the chord type and musical context in which they are applied. The following table shows some of the possibilities for adding these extensions and their alterations to each basic chord type.

CHORD TYPE	POSSIBLE EXTENSIONS/ALTERATIONS					
MAJOR SEVENTH	9	♯11	13			
MAJOR SIXTH	9	♯11	(13 = 6)			
MINOR/MAJOR SEVENTH	9	11	♯11			
MINOR SIXTH	9	11	♯11	♮7		
DOMINANT SEVENTH	♭9	9	♯ 9	♯11	13	♭13
MINOR SEVENTH	♭9	9	11			
MINOR SEVENTH (♭5)	♭9	9	11	♯5		
DIMINISHED SEVENTH	9	11	♯5	♮7		
AUGMENTED MAJOR SEVENTH	9	♯11				
DOMINANT SEVENTH (♭5)	♭9	9	♯9	♭13		
DOMINANT SEVENTH (+5)	♭9	9	♯9	♯11		

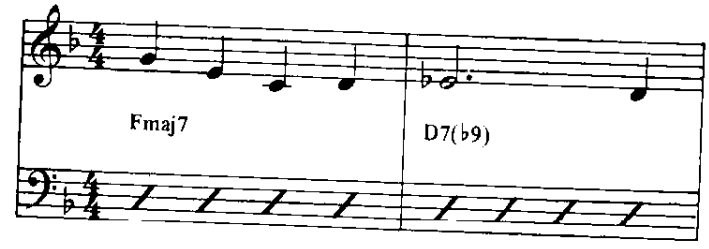
To a large extent, the player must decide which extensions and alterations to use according to his preferences. For this reason alone it is not necessary to include them in a chord symbol unless specifically required by a composer for a particular effect. If the extensions are specified they are usually written above the number seven.

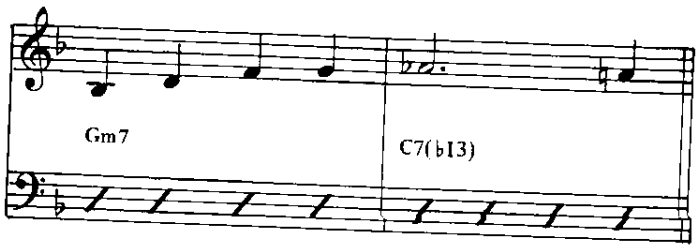
Consider for example the chord sequence:

The player is at liberty to use the following extensions:



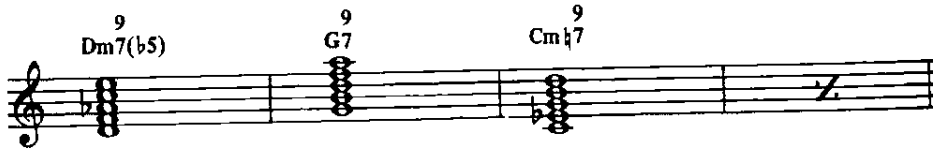
Note that the use of extensions gives the sequence a different quality to that obtained using basic sevenths but the harmonic function is unchanged. Sometimes a tune involves a melody note which is an altered extension and it is usual in such cases to include such alteration in the chord symbol.



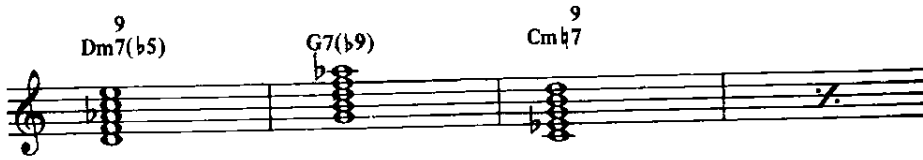


In addition, musical context can sometimes determine the nature of an extension. The minor key is a good example of this. Consider this progression:

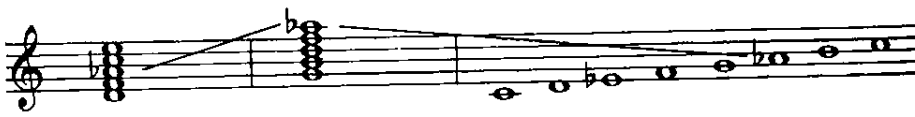
now add ninths:



Note that the G7 with an unaltered ninth (A) sounds incorrect. It is no
compatible with the minor tonality. The G7 would sound better with
flattened ninth (A♭).



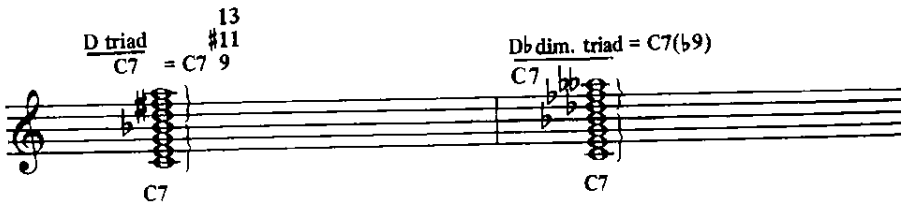
The A♭ sounds better because it is a constituent part of the tonality
C minor. It is also the flattened fifth of the preceding Dm7(♭5) chord.



4.2 POLYCHORDALISM

At first, the possibilities in combining chord extensions and their alteration
seem overwhelming. Fortunately their assimilation and application can b
rationalised by thinking in terms of chord superimposition or *polychord*

Consider for example the chord C7. If a D major triad is played over thi
the effect is to add a ninth, a raised eleventh and a thirteenth to the bas
chord. Similarly if a D♭ diminished triad is played over the chord, the effe
is to add a flattened ninth. This principle is known as polychordalism



4.3 THE POLYCHORD TABLES

The concept of polychords need not be confined to triads. Seventh chords can also be superimposed over the foundation chord.

The various possibilities are shown in the following series of Polychord Tables. These are divided into two groups. Tables 1-10 show the effect of superimposing triads over the basic chords. Tables 11-20 show the effect of superimposing seventh chords.

In each table the left-hand column shows the interval relationship between the foundational chord and the superimposed chord.

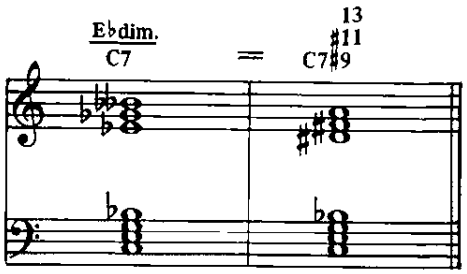
A superimposed chord is only included if all its constituent notes can be played over the basic chord. In addition, a chord is not included if all its constituent notes are only basic chord tones as it will not then constitute a polychord. The superimposed chords can be inverted as necessary according to the top note required.

It would be impossible to assimilate all the information at one go and the tables should therefore be regarded as a reference. Players unfamiliar with the concept of polychords would do well to consider using superimposed major triads as a starting point.

It should be noted that the tables for foundational tonic major sevenths and minor/major sevenths will also apply to major sixths and minor sixths respectively.

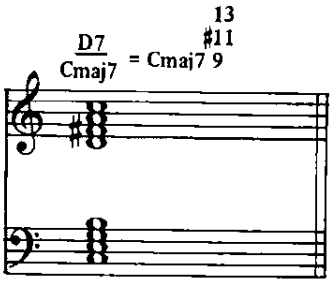
Example from TABLE 3

If a diminished triad (third column) is superimposed over a dominant seventh a minor third from its root (fourth row), the effect is to add a sharp ninth, sharp eleventh and thirteenth.



Example from TABLE 11

If a dominant seventh (third column) is superimposed over a major seventh a major second from its root (third row), the effect is to add a ninth, a sharp eleventh, a thirteenth and the root.



SECTION 4 | INDEX TO POLYCHORD TABLES

FOUNDATION CHORD	SUPERIMPOSED CHORDS	
	Triads	Sevenths
MAJOR SEVENTH	TABLE 1	TABLE 11
MINOR SEVENTH	2	12
DOMINANT SEVENTH	3	13
DIMINISHED SEVENTH	4	14
MINOR/MAJOR SEVENTH	5	15
MINOR SEVENTH (♭5)	6	16
AUGMENTED DOMINANT SEVENTH	7	17
DOMINANT SEVENTH (♭5)	8	18
AUGMENTED MAJOR SEVENTH	9	19
MAJOR SEVENTH (♭5)	10	20

TABLE 1 TONIC MAJOR 7 or MAJOR 6				
	MAJOR	MINOR	DIM	AUG
R				
m2				
M2	9			
m3				
M3				
p4				
a4			♯11 13 R	
p5	5 7 9			
a5				
M6		13 R 3		
m7				
M7		7 9 ♯11		

TABLE 2 MINOR SEVENTH m7				
	MAJOR	MINOR	DIM	AUG
R				
m2	♭9 11 +5			
M2				
m3				
M3				
p4	11 13 R			
a4				
p5		5 7 9		
a5	+5 R 3			
M6				
m7	7 9 11			
M7				

TABLE 3 DOMINANT SEVENTH 7				
	MAJOR	MINOR	DIM	AUG
R		R, #9, 5	R, #9, #11	R, 3, ♭13
m2		♭9, 3, ♭13	♭9, 3, 5	
M2	9, #11, 13			9, #11, 7
m3	#9, 5, 7	#9, #11, 7	#9, #11, 13	
M3				3, ♭13, R
p4				
a4	#11, 7, ♭9	#11, 13, ♭9	#11, 13, R	#11, 7, 9
p5		5, 7, 9	5, 7, ♭9	
a5	♭13, R, #9			♭13, R, 3
M6	13, ♭9, 3	13, R, 3	13, R, #9	
m7			7, ♭9, 3	7, 9, #11
M7				

TABLE 4 DIMINISHED SEVENTH dim 7				
	MAJOR	MINOR	DIM	AUG
R				
m2	♭9, 11, ♭13			♭9, 11, 7
M2	9, 5, 7	9, 11, 7		
m3				
M3				
p4	11, 7, R	11, ♭13, R	11, ♭13, 𝄫7	11, 7, ♭9
a4		5, 7, ♭9		
p5				
a5	♭13, R, 3	♭13, 𝄫7, 3		
M6				7, ♭9, 11
m7				
M7	𝄫7, 3, 5	𝄫7, 9, 5	𝄫7, 9, 11	

TABLE 5 MINOR/MAJOR SEVENTH m♮7				
	MAJOR	MINOR	DIM	AUG
R			R 3 #11	
m2				
M2	9 #11 (6)	9 11 (6)		
m3			3 #11 (6)	
M3				
p4	11 (6) R			
a4			#11 (6) R	
p5	5 7 9			
a5				
M6			(6) R 3	
m7				
M7	7 3 #11	7 9 #11	7 9 11	

TABLE 6 MINOR SEVENTH (♭5) m7(♭5)				
	MAJOR	MINOR	DIM	AUG
R				
m2	♭9 11 +5			
M2			9 11 ♭13	9 5 7
m3				
M3				
p4		11 ♭13 R		
a4	5 7 ♭9			5 7 9
p5				
a5	♭13 R 3			
M6				
m7	7 9 11	7 ♭9 11		7 9 5
M7				

TABLE 7 AUGMENTED SEVENTH 7(+5)				
	MAJOR	MINOR	DIM	AUG
R			R ♯9 ♯11	
m2		♭9 3 +5		
M2				9 ♯11 7
m3		♯9 ♯11 7		
M3				
p4				
a4	♯11 7 ♭9			♯11 7 9
p5				
a5	+5 R ♯9			
M6				
m7			7 ♭9 3	7 9 ♯11
M7				

TABLE 8 DOMINANT SEVENTH (♭5) 7(♭5)				
	MAJOR	MINOR	DIM	AUG
R			R ♯9 ♭5	R 3 ♭13
m2		♭9 3 ♭13		
M2	9 ♭5 13			9 ♭5 7
m3		♯9 ♭5 7	♯9 ♭5 13	
M3				3 ♭13 R
p4				
a4	♭5 7 ♭9	♭5 13 ♭9	♭5 13 R	♭5 7 9
p5				
a5	♭13 R ♯9			♭13 R 3
M6	13 ♭9 3	13 R 3	13 R ♯9	
m7			7 ♭9 3	7 9 ♭5
M7				

TABLE 9 AUGMENTED MAJOR SEVENTH Maj7(+5)				
	MAJOR	MINOR	DIM	AUG
R				
m2				
M2	9 ♯11 13			
m3				
M3				
p4				
a4			♯11 13 R	
p5				
a5			+5 7 9	
M6		13 R 3		
m7				
M7		7 9 ♯11		

TABLE 10 MAJOR SEVENTH (♭5) maj7(♭5)				
	MAJOR	MINOR	DIM	AUG
R				R 3 +5
m2				
M2	9 ♭5 13			
m3				
M3	3 +5 7			3 +5 R
p4				
a4			♭5 13 R	
p5				
a5			+5 7 9	+5 R 3
M6		13 R 3		
m7				
M7		7 9 ♭5		

TABLE 11 MAJOR SEVENTH maj 7

	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♮7	MIN 7 (♭5)	DOM 7(+5)	DOM 7 (♭5)	MAJ 7(+5)	MAJ 7 (♭5)
R										
m2										
M2			9 #11 13 R							
m3										
M3		3 5 7 9								
p4										
a4						#11 13 R 3				
p5	5 7 9 #11									
a5										
M6		13 R 3 5								
m7										
M7		7 9 #11 13								

TABLE 12 MINOR SEVENTH m7										
	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♭7	MIN 7 (♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R										
m2										
M2										
m3	3 5 7 9									
M3										
p4										
a4										
p5		5 7 9 11								
a5										
M6										
m7										
M7										

TABLE 13 DOMINANT SEVENTH 7										
	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♮7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R				R ♯9 11 13		R ♯9 ♯11 7	R 3 ♭13 7	R 3 ♯11 7		
m2				♭9 3 5 7	♭9 3 ♭13 R					
M2	9 ♯11 13 ♭9		9 ♯11 13 R				9 ♯11 7 R	9 ♯11 ♭13 R	9 ♯11 7 ♭9	9 ♯11 ♭13 ♭9
m3		♯9 ♯11 7 ♭9	♯9 5 7 ♭9	♯9 ♯11 13 R	♯9 ♯11 7 9	♯9 ♯11 13 ♭9		♯9 5 13 ♭9		♯9 5 13 9
M3				3 5 7 ♭9		3 5 7 9	3 ♭13 R 9	3 ♭13 7 9	3 ♭13 R ♯9	3 ♭13 7 ♯9
p4										
a4		♯11 13 ♭9 3	♯11 7 ♭9 3	♯11 13 R ♯9		♯11 13 R 3	♯11 7 9 3	♯11 7 R 3		
p5				5 7 ♭9 3	5 7 9 ♯11					
a5	♭13 R ♯9 5		♭13 R ♯9 ♯11				♭13 R 3 ♯11	♭13 R 9 ♯11	♭13 R 3 5	♭13 R 9 5
M6	13 ♭9 3 ♭13	13 R 3 5	13 ♭9 3 5	13 R ♯9 ♯11	13 R 3 ♭13	13 R ♯9 5		13 ♭9 ♯9 5		13 ♭9 ♯9 ♭13
m7				7 ♭9 3 5		7 ♭9 3 ♭13	7 9 ♯11 ♭13	7 9 3 ♭13	7 9 ♯11 13	7 9 3 13
M7										

TABLE 14 DIMINISHED SEVENTH dim 7

	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♮7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R										
m2	♭9 11 ♭13 R		♭9 11 ♭13 ♮7				♭9 11 7 ♮7		♭9 11 7 R	
M2		9 11 7 R	9 5 7 R	9 11 ♭13 ♮7	9 11 7 ♭9	9 11 ♭13 R		9 5 ♭13 R		9 5 ♭13 ♭9
m3						3 5 7 ♭9				
M3										
p4		11 ♭13 R 3	11 7 R 3	11 ♭13 7 9		11 ♭13 ♮7 3	11 7 ♭9 3	11 7 ♮7 3		
a4					5 7 ♭9 11					
p5										
a5		♭13 ♮7 3 5	♭13 R 3 5	♭13 7 9 11		♭13 ♮7 9 5		♭13 R 9 5		
M6									7 ♭9 11 ♭13	7 ♭9 3 ♭13
m7										
M7		♮7 9 5 7	♮7 3 5 7	♮7 9 11 ♭13		♮7 9 11 7		♮7 3 11 7		

TABLE 15 MINOR/MAJOR SEVENTH m♭7

	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♭7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R				R, 3, #11, (6)						
m2										
M2		9, 11, (6), R	9, #11, (6), R							
m3				3, #11, (6), R						
M3									3, 5, 7, 9	3, 5, (6), 9
p4			11, (6), R, 3							
a4				#11, (6), R, 3				11, (6), 7, 3		
p5	5, 7, 9, #11		5, 7, 9, 11				5, 7, 3, 11			
a5									5, 7, 3, #11	
M6				(6), R, 3, #11		(6), R, 3, 5				
m7										
M7		7, 9, #11, (6)	7, 3, #11, (6)			7, 9, 11, (6)	7, 3, 5, (6)	7, 3, 11, (6)		

TABLE 16 MINOR 7 (♭5) m7(♭5)										
	MAJ 7	MIN 7	DOM 7	DIM 7	MIN 7	MIN 7 (♭5)	DOM 7(+5)	DOM 7 (♭5)	MAJ 7(+5)	MAJ 7(♭5)
R										
m2										
M2							9 5 7 R			
m3					3 5 7 9					
M3										
p4										
a4									5 7 9 11	5 7 R 11
p5										
a5										
M6										
m7										
M7										

TABLE 17 AUGMENTED SEVENTH 7 (+5)										
	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♮7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R						R ♯9 ♯11 7		R 3 ♯11 7		
m2					♭9 3 +5 R					
M2							9 ♯11 7 R	9 ♯11 +5 R	9 ♯11 7 ♭9	9 ♯11 +5 ♭9
m3		♯9 ♯11 7 ♭9			♯9 ♯11 7 9					
M3							3 +5 R 9	3 +5 7 9	3 +5 R ♯9	3 +5 7 ♯9
p4										
a4			♯11 7 ♭9 3				♯11 7 9 3	♯11 7 R 3		
p5										
a5							+5 R 3 ♯11	+5 R 9 ♯11		
M6										
m7							7 9 ♯11 +5	7 9 3 +5		
M7										

TABLE 18 DOMINANT SEVENTH (♭5) 7 (♭5)										
	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♯7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R				R ♯9 ♭5 13		R ♯9 ♭5 7	R 3 +5 7			
m2					♭9 3 +5 R					
M2	7 ♭5 13 ♭9		9 ♭5 13 R				9 ♭5 7 R	9 ♭5 +5 R	9 ♭5 7 ♭9	9 ♭5 +5 ♭9
m3		♯9 ♭5 7 ♭9		♯9 ♭5 13 R	♯9 ♭5 7 9	♯9 ♭5 13 ♭9				
M3							3 +5 R 9	3 +5 7 9	3 +5 R ♯9	3 +5 7 ♯9
p4										
a4		♭5 13 ♭9 3	♭5 7 ♭9 3	♭5 13 R ♯9		♭5 13 R 3	♭5 7 9 3	♭5 7 R 3		
p5										
a5			+5 R ♯9 ♭5				+5 R 3 ♭5	+5 R 9 ♭5		
M6	13 ♭9 3 +5			13 R ♯9 ♭5	13 R 3 +5					13 ♭9 ♯9 +5
m7						7 ♭9 3 +5	7 9 ♭5 +5	7 9 3 +5	7 9 ♭5 13	7 9 3 13
M7										

TABLE 19 MAJOR SEVENTH (+5) maj 7 (+5)										
	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♮7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R										R 3 ♯11 7
m2										
M2			9 ♯11 13 R					9 ♯11 +5 R		
m3										
M3			3 +5 7 9				3 +5 R 9			
p4						♯11 3 R 3				
a4										
p5										
a5						+5 7 9 ♯11	+5 R 3 ♯11	+5 R 9 ♯11		
M6					13 R 3 +5					
m7										
M7		7 9 +5 13								

TABLE 20 MAJOR SEVENTH (♭5) maj 7 (♭5)

	MAJ 7	MIN 7	DOM 7	DIM 7	MIN ♮7	MIN 7(♭5)	DOM 7(+5)	DOM 7(♭5)	MAJ 7(+5)	MAJ 7(♭5)
R									R, 3, +5, 7	
m2										
M2			9, ♭5, 13, R					9, ♭5, +5, R		
m3										
M3			3, +5, 7, 9				3, +5, R, 9			
p4										
a4						♭5, 13, R, 3				
p5										
a5						+5, 7, 9, ♭5	+5, R, 3, ♭5	+5, R, 9, ♭5		
M6										
m7										
M7		7, 9, ♭5, 13								

5. JAZZ PIANO VOICINGS

5.1 INTRODUCTION

The notes of a chord are also known as voices and their various arrangements on the piano are known as *voicings*. In the examples given so far I have not considered the best voicings to use as it would confuse the issue. For this reason, chords have hitherto been shown in their basic root positions.

The subject of voicings for the jazz pianist can be divided into two parts:

(a) Two- handed voicings: for use in solo piano work and for *comping* (accompanying) within a rhythm section.
(b) Left-hand voicings: for use in accompanying the pianist's own right-hand improvisations.

5.2 VOICING FORMULA

Voicings can be described using numbers for the notes of the chords. A four-note chord in its root position and three inversions can be shown thus:

R	3	5	7			
	3	5	7	R		
		5	7	R	3	
			7	R	3	5

The same principle can be used to include chord extensions:

R 3 5 7 9 11 13

This shorthand method is useful, for it applies to any chord type in any key.

In addition to describing voicings by this method, I have also included examples written in full on the stave.

5.3 PRACTICE METHOD

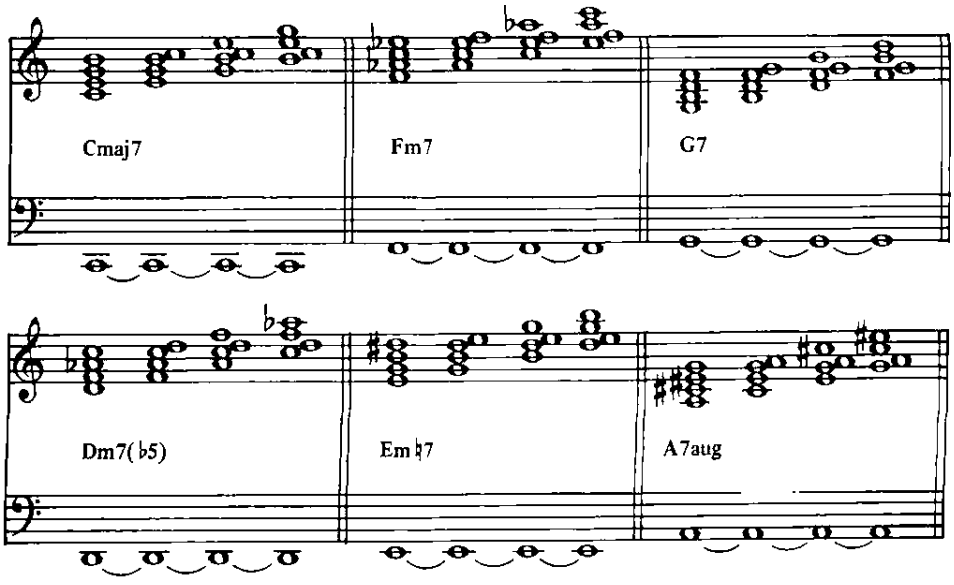
A useful way to practise voicings is to apply them to the cycle of fifths. This is a convenient way of covering all twelve keys and it accustoms the hands and ears to the cycle progression.

5.4 TWO-HANDED VOICINGS

The first voicings to consider involve a block chord near the middle register of the piano and the root played separately in the bass.

L.H.	R.H.						
R	R	3	5	7			
	3	5	7	R			
	5	7	R	3			
	7	R	3	5			
		R	3	5	7		

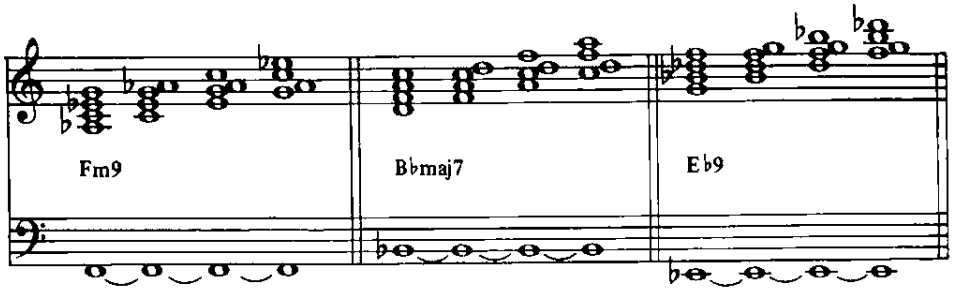
Examples of voicing: R - R357: 357R; 57R3; 7R35

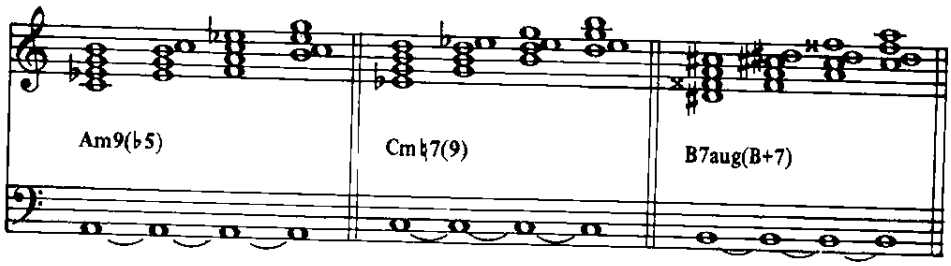


Played in this way, the large interval between the two hands allows the bass (root) to be heard clearly. This voicing is useful as a study in basic four-note chords.

In the next voicing the ninth is introduced:

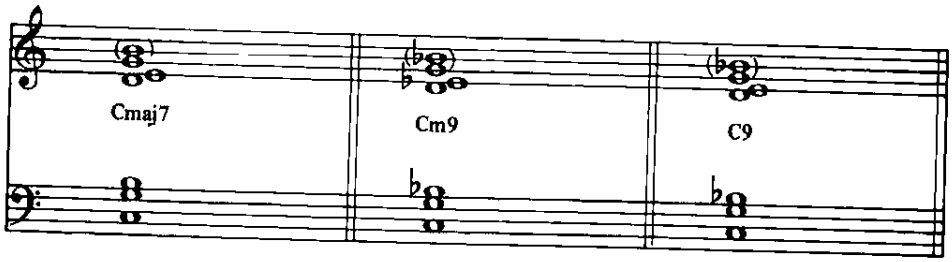
L.H.	R.H.						
R	3	5	7	9			
	5	7	9	3			
	7	9	3	5			
	9	3	5	7			
		3	5	7	9		

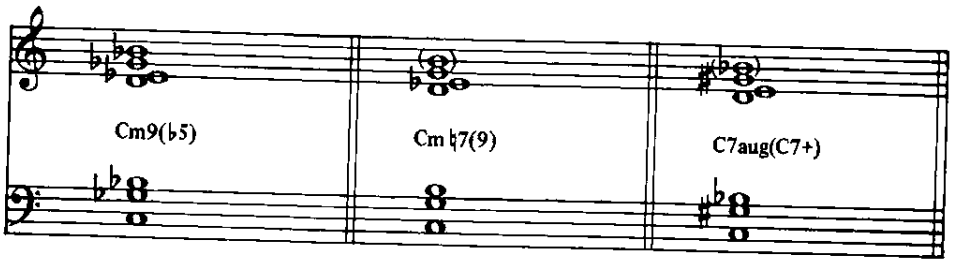




The next voicing brings the two hands together near the middle register of the piano:

L.H. **R.H.**
R 5 7 9 3 5 (7)

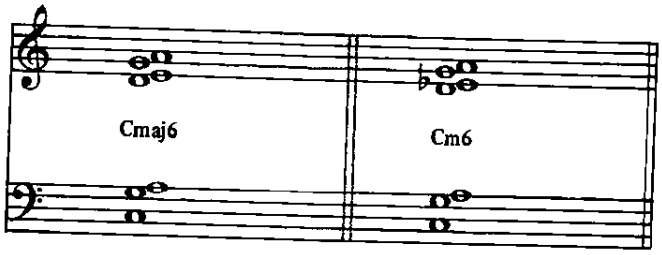




The seventh can be added to the right hand as shown, although this is not obligatory as it is already included in the left hand.

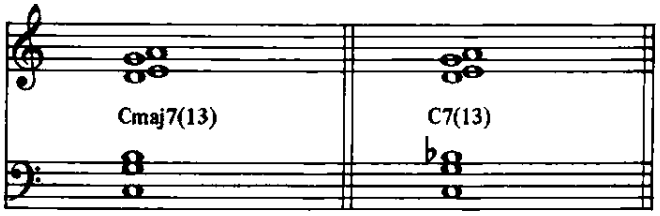
This voicing can be modified to include a 'sixth' in tonic chords.

L.H. **R.H.**
R 5 6 9 3 5 6

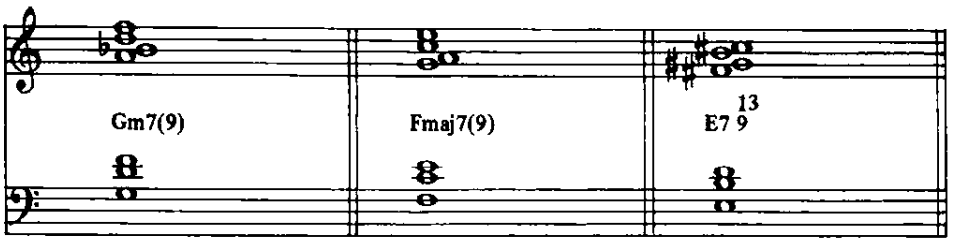


If a seventh is played in the left hand, the voicing is suitable for 'thirteenth' chords of the major and dominant type:

L.H. **R.H.**
R 5 7 9 3 5 13

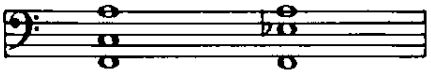


If these voicings are played close to the middle C, you will notice that they sound 'thin'.

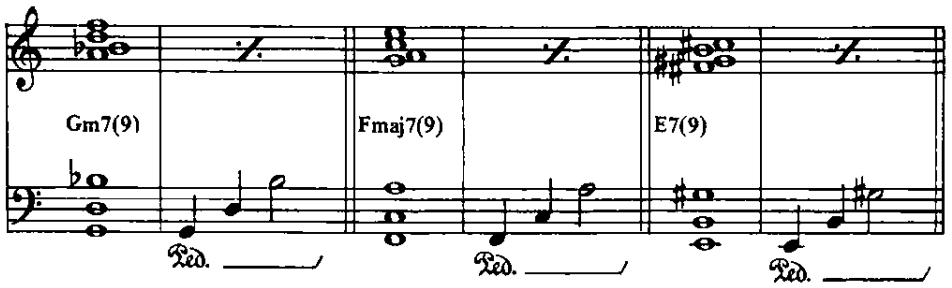


A richer sound can be achieved using a 'tenth' in the left hand and this can be done in two ways:

L.H.
R 5 10
R 7 10

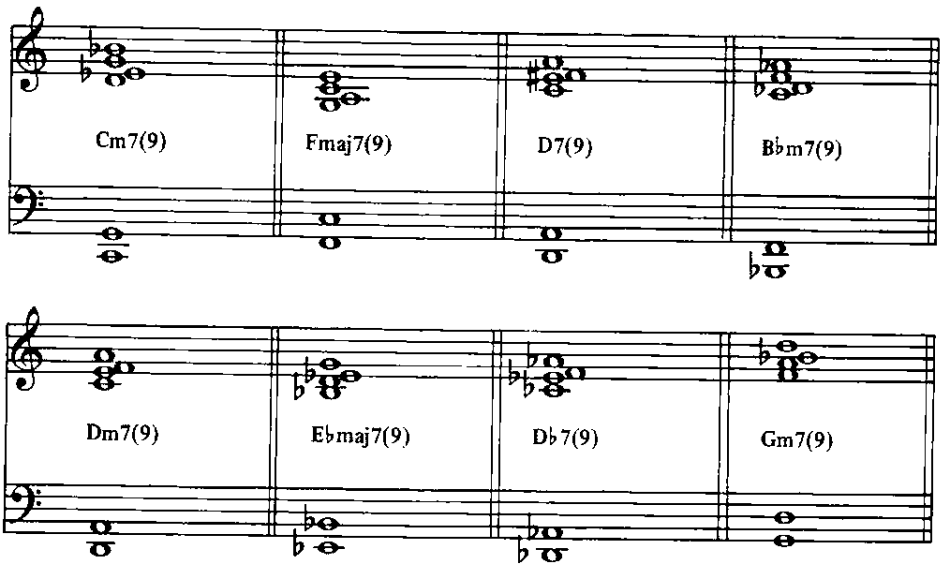


If R/5/10 is used, the omission of the seventh from the left hand means that it will have to be included in the right hand to complete the chord. Some pianists will have difficulty in playing tenths in the left hand but it is quite permissible to use broken tenths by pivoting on the fifth or seventh:

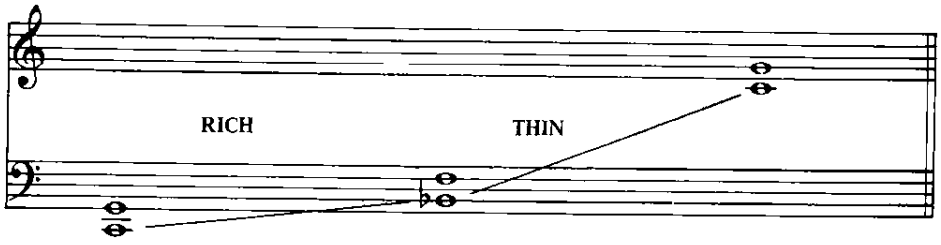


A tenth is the same note as a third. If a third is included in the right hand the left hand need only play the root and the fifth:

L.H.	R.H.						
R 5	9	3	5	7			
		3	5	7	9		
			5	7	9	3	
				7	9	3	5



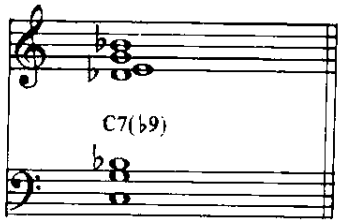
Note that the fifth in the bass sounds thinner the higher it is played.



The following voicings introduce the chord extensions and their alteration in various combinations, and it is here that the polychord tables will be found useful. Remember that in any voicing the third and the seventh have to be present to define the chord type except where the sixth is used in a tonic chord, in which case the third and sixth have to be included.

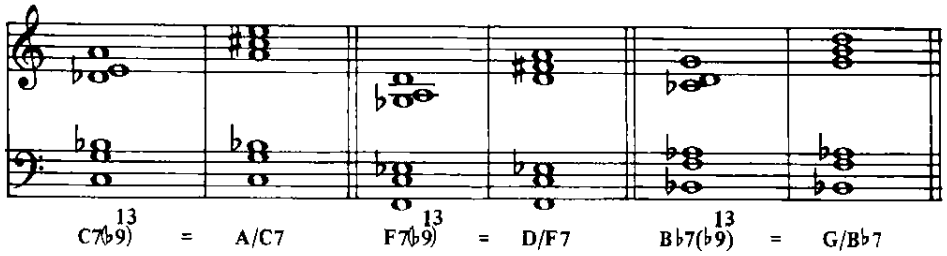
We can begin by modifying one of the voicings already considered to include the flattened ninth:

L.H.	**R.H.**
R 5 7	♭9 3 5 7



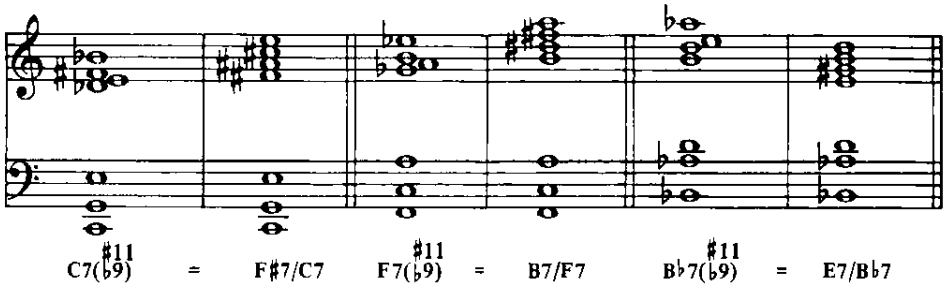
Note that the right hand now contains a diminished chord on D♭, *ie* a minor second up from the root of the chord. This could have been established by reference to the polychord tables. *(see Table 13, column 4, line 2).* The thirteenth can also be introduced in conjunction with the flattened ninth as follows:

L.H.	**R.H.**
R 5 7	♭9 3 13 (7)

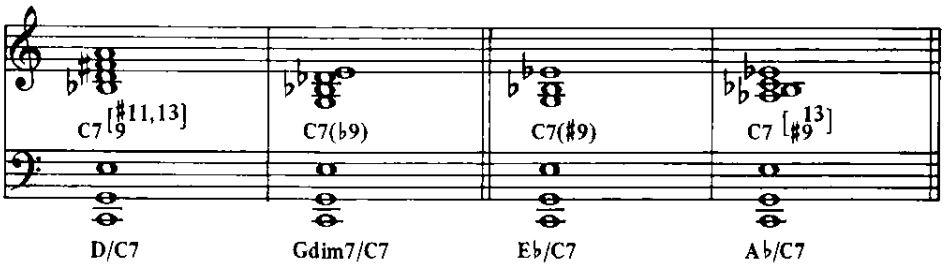


If the left hand includes a tenth (tenth = third) the third is not obligatory in the right hand, although it could be retained to produce a richer sound.

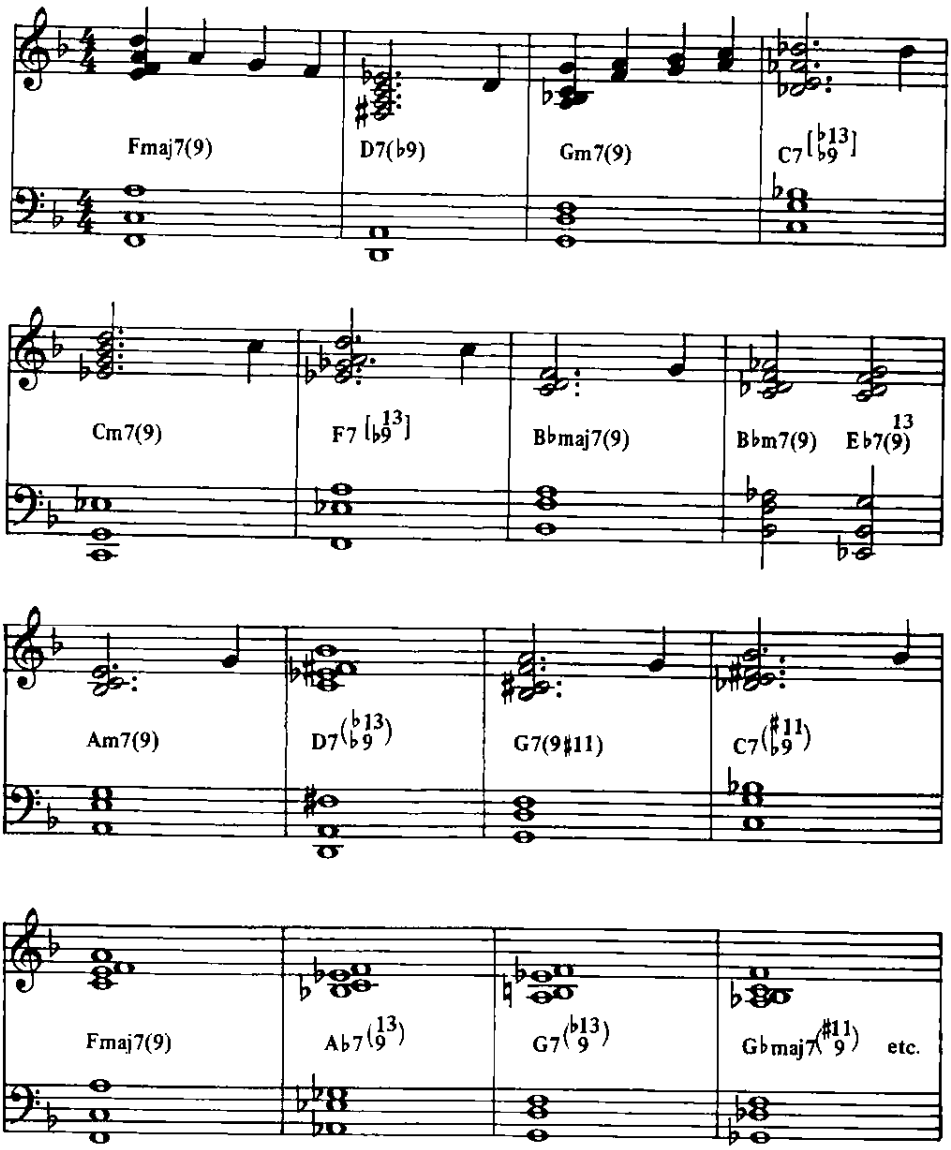
L.H.	R.H.
R 5 10	♭9 (3) ♯11 7



The player should experiment with the different combinations selecting those which suit his taste. Here are some possibilities on the chord of Cdom7. Remember that this principle also applies to other chord types as shown in the polychord tables. In these examples I have used R/5/10 in the left hand.



The following sixteen bars represent a typical tune and chord progression to which I have applied the principles of voicing already discussed:



5.5 ROOTLESS VOICINGS

Since the late 1950s there has been an increasing tendency in jazz piano to use voicings which do not contain roots. This has had a liberating effect on the bass player, allowing him more freedom and range. It also has the added benefit of allowing the pianist to add other non-functional notes in place of the roots, giving the harmonies more colour.

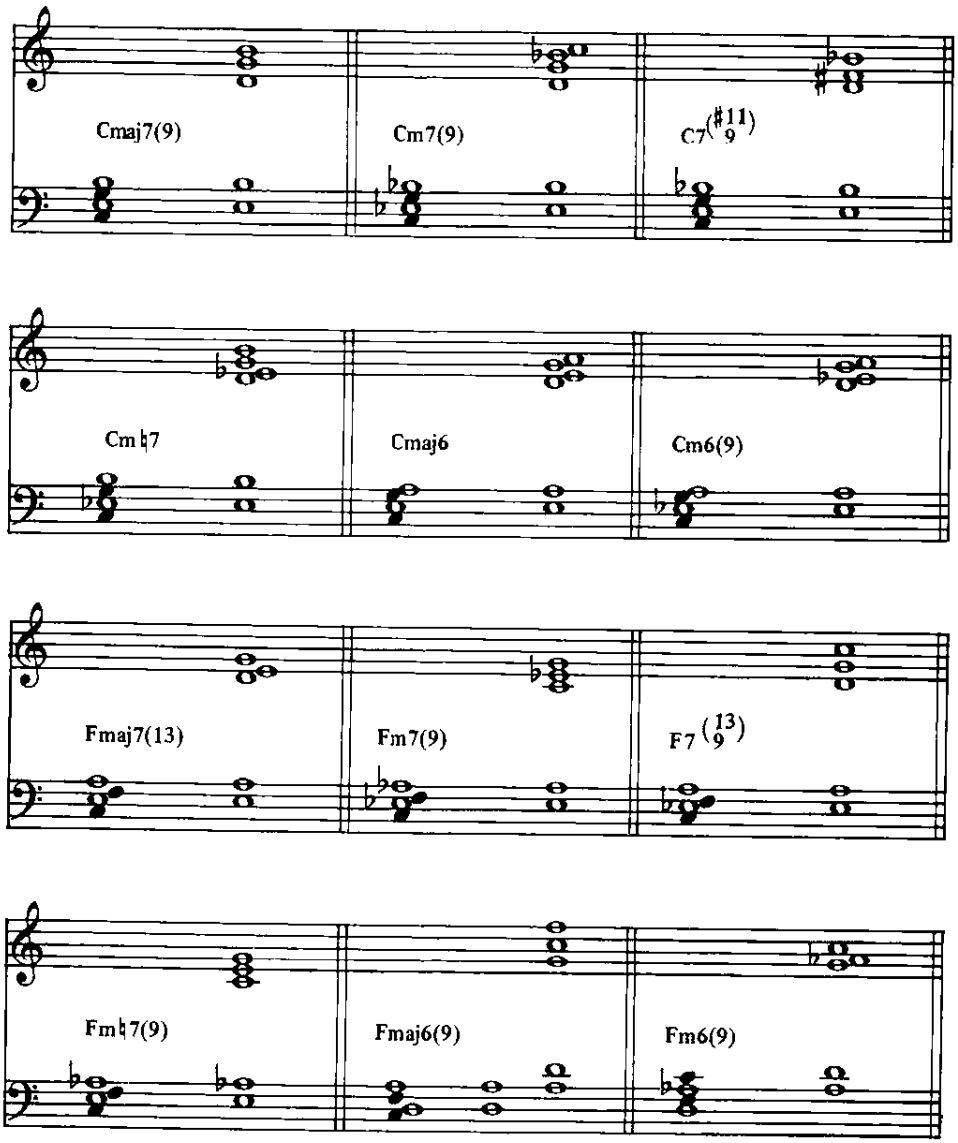
The important point to remember in establishing these voicings is that the third and the seventh (or sixth on tonic chords) are the notes which determine the chord type and should therefore be included in the voicing. If these notes are incorporated in the left hand, the right hand is allowed more freedom in the selection of added notes.

We can derive these voicings as follows:

Consider the basic four-note chord in the left hand so that it is centred on the octave below middle C. Omit the root and fifth leaving the third and seventh. Add the right-hand notes as required.

In the following two examples the chords of C are considered starting in the position R 3 5 7, and the chords of F are considered starting in the position 5 7 R 3.

Note that in each example the chords have the third or seventh as the lowest note. In the case of the F tonic sixth chords, the left-hand part is inverted until the third is at the bottom.



5.6 LEFT-HAND VOICINGS

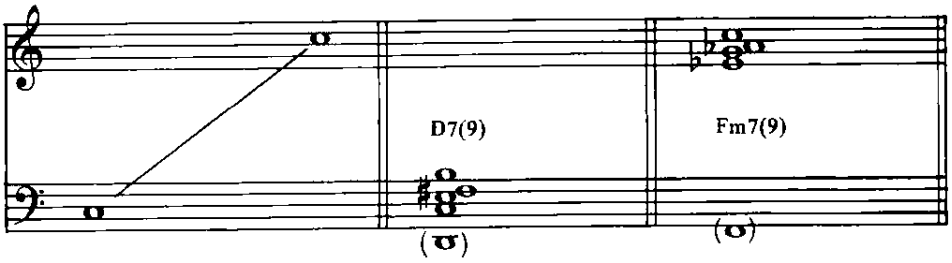
The left-hand parts of the rootless voicings comprise a third and a seventh. To these notes we can add other non-functional notes: fifths, ninths, elevenths and thirteenths, to give a fuller sound in the left hand.

This leaves the right hand free to:

(a) add other extensions,
(b) use higher registers of the keyboard, and
(c) play improvised lines.

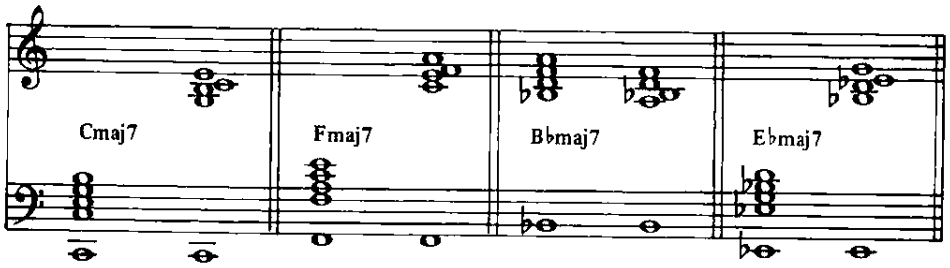
There are numerous possibilities for these left-hand constructions. The following table lists some of them according to chord type. They can be applied most effectively in the two octaves centred on middle C.

CHORD TYPE	SYMBOL	L.H. VOICING
MAJOR SIXTH	M6	3 5 6 9 6 9 3 5
MAJOR SEVENTH	M7	R 3 5 7 5 7 R 3 7 R 3 5
MINOR/MAJOR SEVENTH	m♮7	9 3 5 7 7 9 3 5
MINOR SIXTH	m6	3 5 6 9 6 9 3 5
MINOR SEVENTH	m7	3 5 7 9 7 9 3 5 9 3 5 7
DOMINANT SEVENTH	7	7 9 3 13 3 13 7 9 13 7 9 3
MINOR SEVENTH (♭5)	m7(♭5)	3 ♭5 7 9 7 9 3 ♭5
DIMINISHED SEVENTH	dim7	3 5 7 9 7 R 3 13
DOMINANT SEVENTH (+5)	dom7(+5)	3 +5 7 9 7 9 3 +5

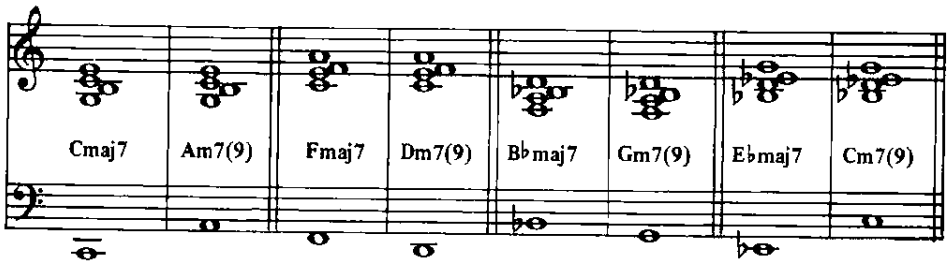


Note that the voicings for the major seventh each include the root. Although each voicing is acceptable, those which contain the root as an inner voice are to be preferred.

This avoids doubling the root in the bass.



Note also that the major seventh voicings are the same as the voicings for the minor seventh (VI) chord from the same key:

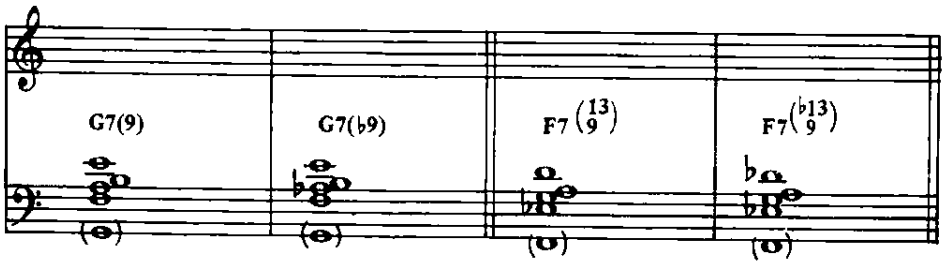


The voicings in the table are not confined to the left hand. Played in the right hand against a root in the left they can be used to expand the chords used in solo piano work. It is worth noting that some players refer to these voicings as 'inversions'. This description is not strictly correct because an inversion of a chord should contain a root. It will be seen from the table that this is only the case with the major seventh voicings.

5.7 ALTERED LEFT-HAND VOICINGS

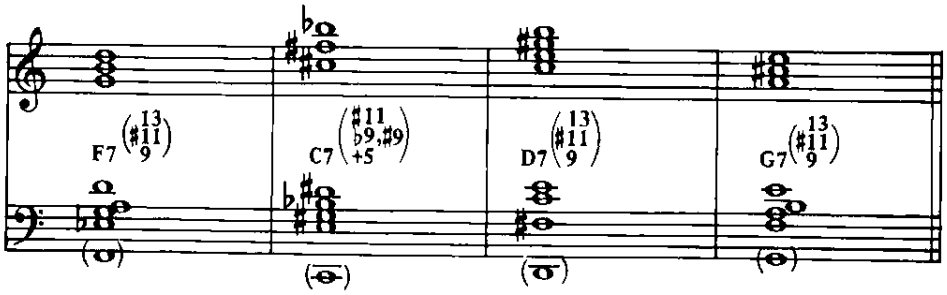
I have not shown any altered extensions in the voicings table although they can be incorporated. In the following examples I have shown how a flattened ninth and a flattened thirteenth can be included in the chords G7 and F7 respectively:

L.H.									
7	9	3	13	becomes	7	♭9	3	13	for G7
7	9	3	13	becomes	7	9	3	♭13	for F7



5.8 RIGHT-HAND EXTENSIONS

The left-hand voicings can be expanded further, using superimposed chords in the right hand. The polychord tables can be consulted for this purpose. This gives more possibilities for two-handed voicings for use in comping.

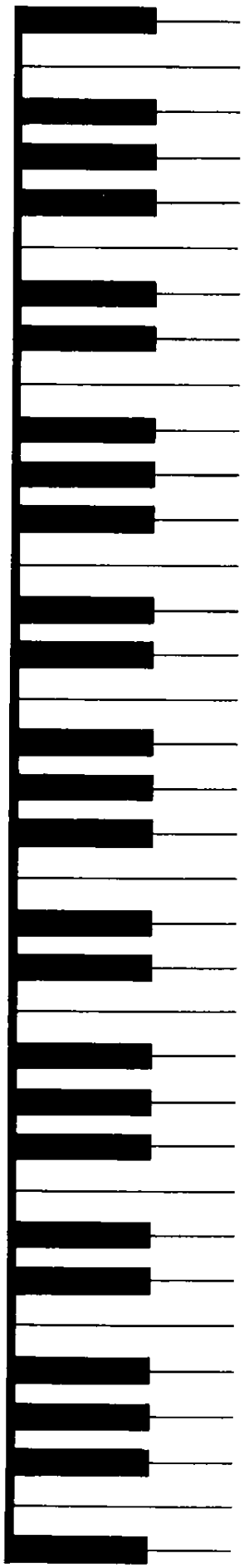


5.9 FURTHER STUDY

The voicings explained in this section have been shown as a basis for the player to work with. Other voicings will be considered in a later section in connection with alternative harmonic systems.

The player can of course devise other voicings to suit his own style of playing.

6. IMPROVISATION



6.1 INTRODUCTION

Improvisation or extemporisation is not peculiar to jazz. Examples are known as far back as the 12th century and it is well known that composers such as Bach, Beethoven and Mozart were proficient in the art.

In music comprising definite forms or structures, it seems inevitable that improvisation must to some extent involve the use of preconceived ideas. This would seem to make the idea of improvisation a contradiction yet we know that, despite any clichés which may be deployed, two improvised solos on the same chord sequence will never be identical. Despite the use of preconceived ideas most people will understand and accept the difference between that which is improvised and that which is performed from 'written' music.

Improvisation in music is not unlike the art of conversation. It involves a working knowledge of the language and experience in its use. The conversationalist will have started with the alphabet, simple words and sentences, developed a vocabulary, formulated his own ideas and probably developed a style.

The same is true for the jazz musician.

There is no simple formula for being good at improvisation any more than for writing a good novel. Improvisation is a creative process which may depend on many personal factors such as inventiveness, intellect, technical ability and perhaps personality. Witness the diversity of styles among jazz players. Despite the improvisatory nature of the music, individual players can often be recognised by the musical ideas which become part of their personal repertoire.

For most jazz musicians, with the exception of the gifted innovator, the ideas formulated at the outset of his playing will be derivative. That is, they will have originated from the music to which he has been exposed and will have been subconsciously absorbed.

Listening to other players is obviously important and detailed study of their melodic lines will give a valuable insight into the process of improvisation. Records play an important part in this as well as published transcriptions of recorded solos.

A working knowledge of chord notes and scales for improvisation will enhance whatever natural ability a player may have and this section is a guide to acquiring that knowledge.

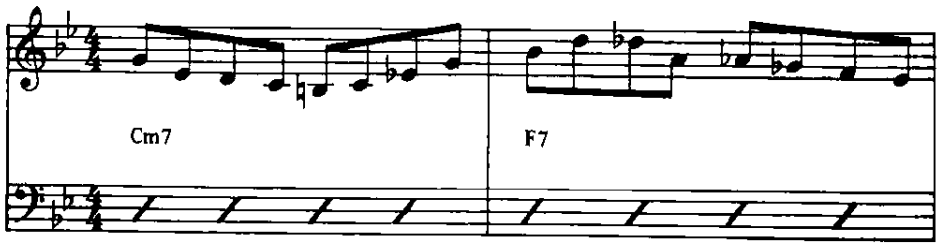
6.2 GETTING STARTED

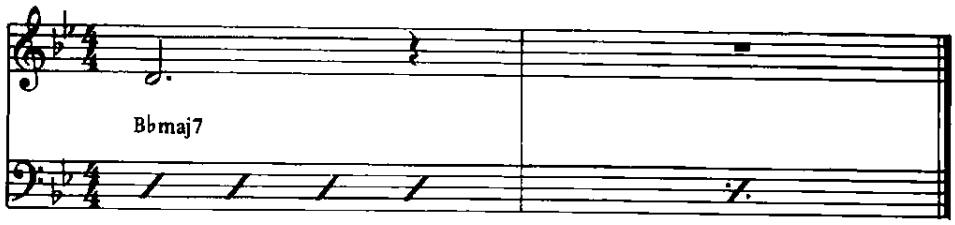
To the beginner, starting in improvisation will probably seem to be the most difficult part of all. The player who has already developed a repertoire and can improvise with some fluency will obviously know his capabilities and will therefore have more confidence than the beginner.

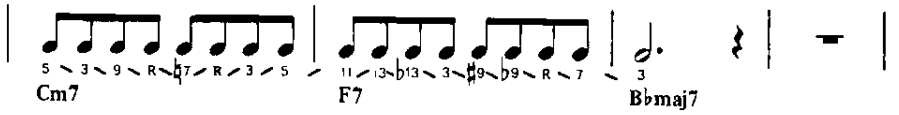
The initial problem is to compose ideas which fit a chord sequence or a tonality and learn them sufficiently well to play them fluently.

In the first instance you should work slowly and have the courage of your conviction that when eventually played at correct tempo the idea is what you intended. Ensure that fingering is correct and comfortable, for bad habits are hard to correct at a later stage. There is something to be said for writing down ideas.

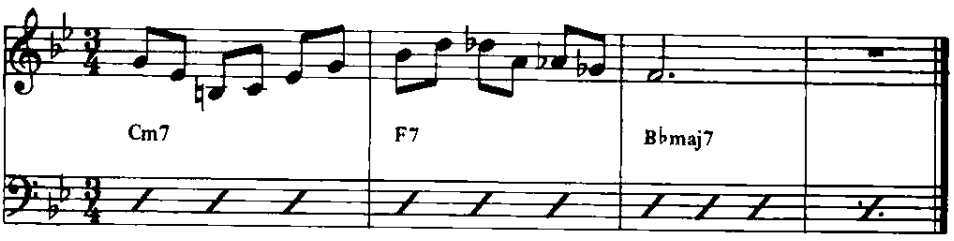
This can be done using conventional notation and is a good 'reading' exercise. It is also possible to use a numbering system which can be applied to all chords of the same type. An example of both methods is shown below:



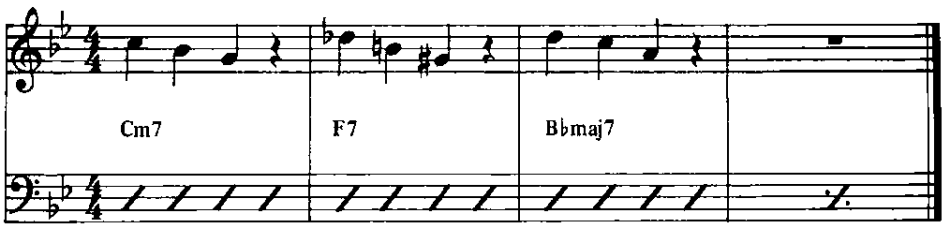




The phrase shown in the above example could have originated in different ways: it may have been (a) a flash of inspiration after hearing the chords (b) constructed from a knowledge of scales relating to the particular chords (c) copied from another source (d) a combination of all three. Whatever its source, the phrase sounds correct against the chords and has the effect of 'resolving' into the B♭ (tonic) chord. Once assimilated it could be developed or modified. Here is a similar phrase adapted for use in three/four time:



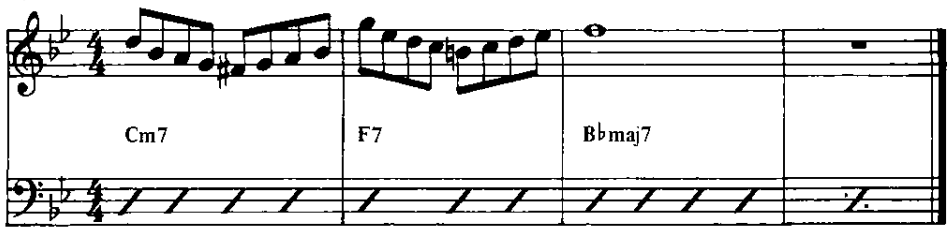
In each example the phrase extends over four bars. It could have been handled another way using a melodic fragment or motif which develops with each chord.



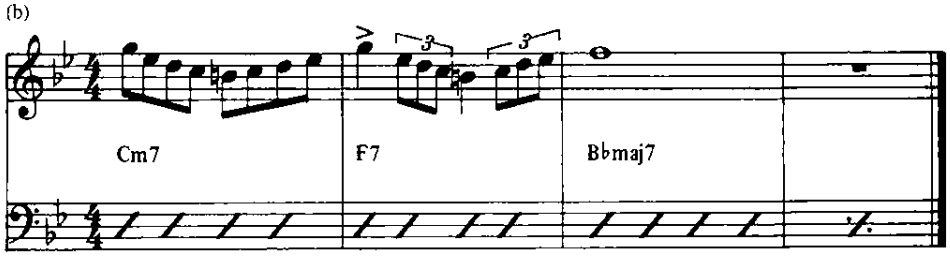
This development of a melodic idea can be carried out in different ways. The motif can be (a) played at higher pitch (b) accented in a different way (c) transposed to a different chord (d) repeated with a similar contour but using different notes. These are all compositional devices which can be applied to improvisation.

Examples:

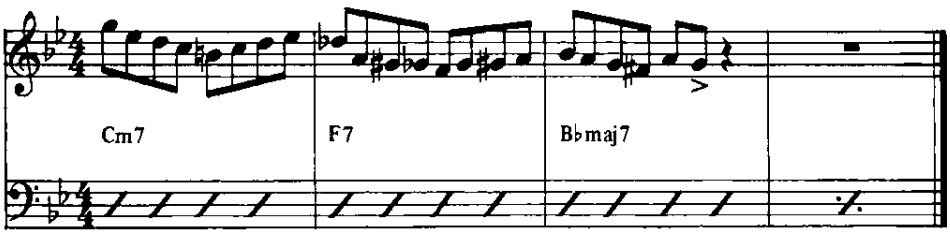
(a)



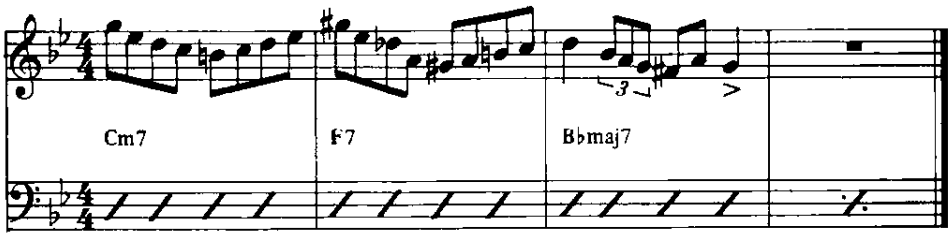
(b)



(c)



(d)



6.3 SCALES . . . A BASIS FOR IMPROVISATION

In the previous examples, the notes used with each chord can be thought of as having originated from a chord-related scale.

The notes played against the Cmin7, F7 and the B♭major7 in examples (a) and (b) are mainly chord tones but they are also derived from the parent key of B♭major. On the other hand, the notes played with the F7 in examples (c) and (d) suggest a different tonality to B♭, giving the phrase a chromatic texture.

Every chord has a scale or series of scales which can be used as a basis for improvisation. In the following table I have listed most of the scales available with their interval constructions. The list is not exhaustive, if only because the player is at liberty to invent his own.

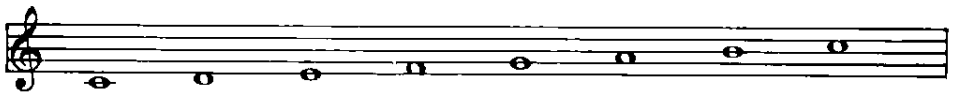
Remember that although these scales are useful as pointers to the possibilities for improvisation, the music comes first. That is, creative art precedes theory. It is for the player to use his inventiveness to extract ideas from the scales.

SCALE TYPE	INTERVAL CONSTRUCTION
MAJOR	T T S T T T S
MELODIC MINOR (asc)	T S T T T T S
MELODIC MINOR (desc)	T S T T S T T
HARMONIC MINOR	T S T T S m3 S
WHOLE TONE	T T T T T T
CHROMATIC	S S S S S S S S S S S S
DIMINISHED	T S T S T S T S
AUXILIARY DIMINISHED	S T S T S T S T
ALTERED	S T S T T T T
ALTERED (INVERTED)	T T T S T S T
IONIAN MODE	T T S T T T S
DORIAN MODE	T S T T T S T
PHRYGIAN MODE	S T T T S T T
LYDIAN MODE	T T T S T T S
MIXOLYDIAN MODE	T T S T T S T
AEOLIAN MODE	T S T T S T T
LOCRIAN MODE	S T T S T T T
LYDIAN/MIXOLYDIAN	T T T S T S T
MIXOLYDIAN (♭9) MODE	S m3 S T T S T
AUGMENTED LYDIAN	T T T T S T S
SPANISH PHRYGIAN	S T S S T S T T
HUNGARIAN MODE	T S m3 S S m3 S
HUNGARIAN FOLK (GYPSY)	S m3 S T S m3 S
SPANISH FOLK	S m3 S T S T T
EXOTIC MODE 1	S m3 S S T S T S
EXOTIC MODE 2	S m3 S S m3 S T
PENTATONIC SCALE 1	T T m3 T m3
PENTATONIC SCALE 2	T m3 T m3 T
PENTATONIC SCALE 3	m3 T m3 T T
PENTATONIC SCALE 4	T m3 T T m3 (SCOTTISH)
PENTATONIC SCALE 5	m3 T T m3 T
BLUES SCALE	SEE TEXT

6.4 THE MAJOR SCALE

The major scale is the one with which most people will be familiar. It is the same as the Ionian mode and it was as a mode that it originated.

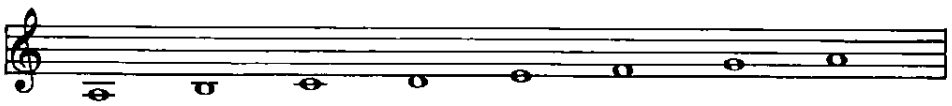
There are twelve such scales, one starting on each of the chromatic notes within an octave.



C MAJOR SCALE (IONIAN MODE)

6.5 THE MINOR SCALES

The sequence of 'white' notes from A to A' produces a natural minor scale. This scale has the same key signature as C major and starts a minor third below it. The scale of A minor is said to be the relative minor of C major.



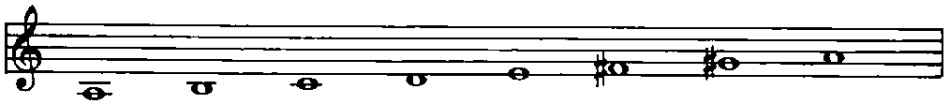
'A' NATURAL MINOR

The leading note of this scale is a tone below the tonic and not a semitone as in the major scale. This means that the 'dominant' chord is E min7 and in order that this chord should function harmonically as a true dominant, the third (*ie* G—the leading note of the scale) has to be raised by a semitone to a new form of scale known as the harmonic minor.

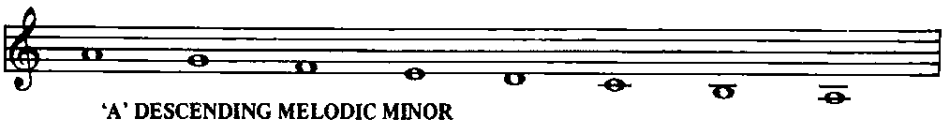
'A' HARMONIC MINOR

Historically the minor third interval between the sixth and seventh notes was considered to be melodically awkward (especially for singers) and to overcome this the sixth degree was also raised, giving yet another scale known as ascending melodic.

In order to produce a smooth melodic sequence the melodic minor scale is played upwards with the sixth and seventh degrees sharpened and downwards with the sixth and seventh degrees as natural.



'A' ASCENDING MELODIC MINOR



'A' DESCENDING MELODIC MINOR

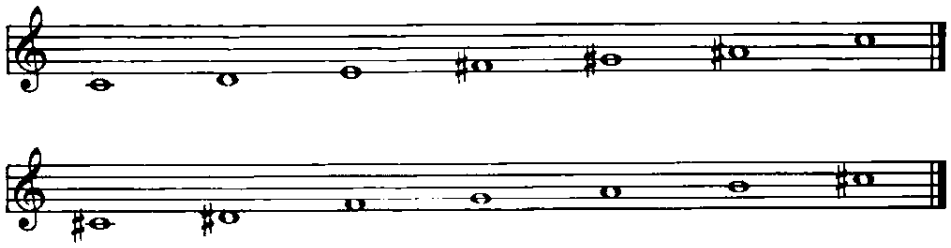
The alterations made to the natural minor scale are not included in the key signature of a minor key and therefore have to be written as accidentals in the music.

There are twelve melodic and twelve harmonic minor scales.

6.6 THE WHOLE-TONE SCALE

The whole-tone scale, as its name implies, comprises whole-tone intervals between each note. Unlike the major and minor scales it has no tonal centre and it has a floating quality which was exploited by Impressionist composers like Debussy.

There are two such scales:



6.7 THE CHROMATIC SCALE

The chromatic scale is formed by playing all twelve notes within the octave. The scale is the same wherever it starts, so in reality there is only one scale.

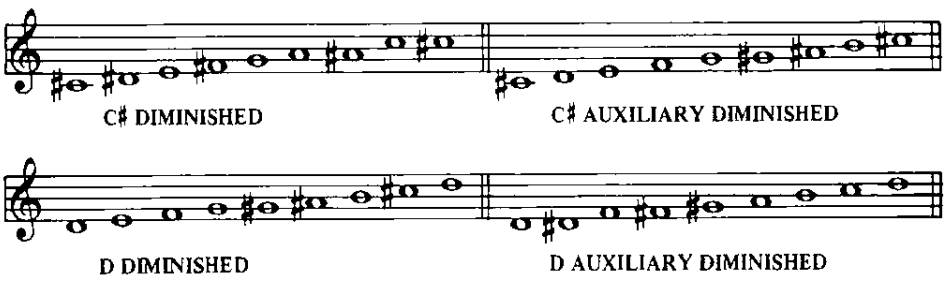
In writing chromatic scales it is the usual practice to sharpen the notes going up and flatten the notes coming down.

6.8 THE DIMINISHED SCALE

The diminished scale comprises alternate tones and semitones and commences with a tone. If the scale is started with a semitone it is said to be an auxiliary diminished or inverted diminished.

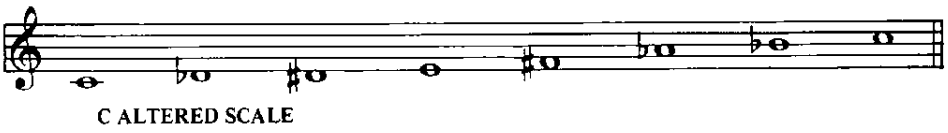
There are only three diminished scales, each one having four possible starting notes. Likewise there are only three auxiliary diminished scales.

C DIMINISHED C AUXILIARY DIMINISHED

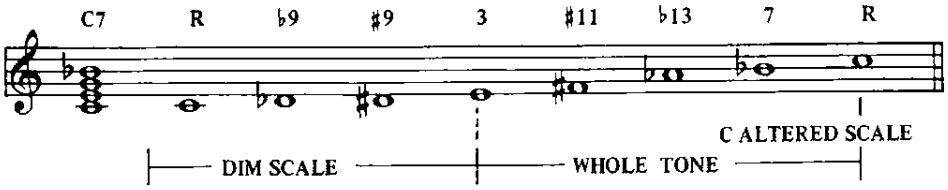


6.9 THE ALTERED SCALES

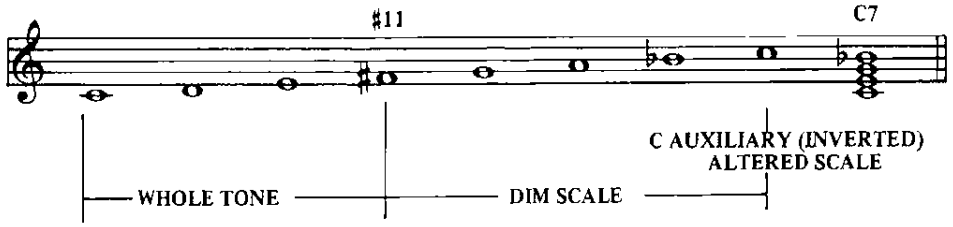
The altered scale is a combination of diminished and whole-tone scale segments.



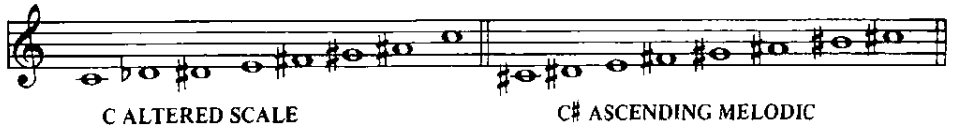
Its primary use is in connection with a dominant seventh chord for it contains all the alterations possible within such a chord.



If the diminished and whole-tone segments are reversed, an auxiliary scale is produced in which the only altered note of the chord is a raised eleventh.



These altered scales are also 'displaced' versions of the ascending melodic minor.



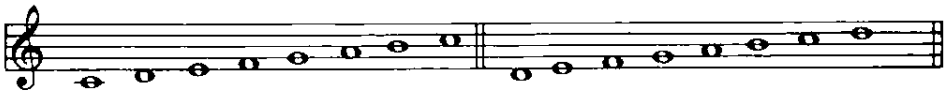
6.10 THE MODES

The modes are of Greek origin, being named after tribes, and they are the basis for the European scale system. All the modes can be conveniently described by relating them to the major scale. Consider, for example, the scale of C major:

C	to	C'	is	the	IONIAN MODE
D	to	D'	is	the	DORIAN MODE
E	to	E'	is	the	PHRYGIAN MODE
F	to	F'	is	the	LYDIAN MODE
G	to	G'	is	the	MIXOLYDIAN MODE
A	to	A'	is	the	AEOLIAN MODE
B	to	B'	is	the	LOCRIAN MODE

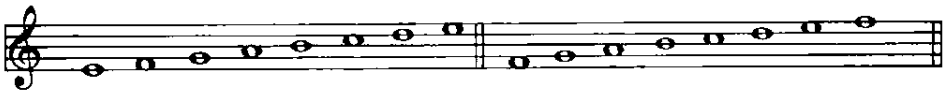
The Ionian mode is the same as the major scale. The Aeolian mode is the same as the descending melodic minor scale.

Each mode has a different tonal centre and because of this they each have a different character even though they all use the same aggregate of notes.



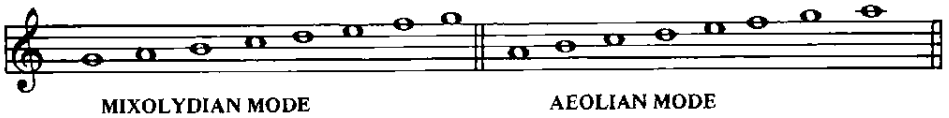
IONIAN MODE

DORIAN MODE



PHRYGIAN MODE

LYDIAN MODE



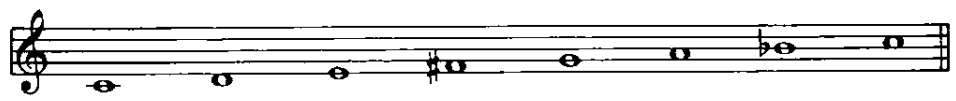
MIXOLYDIAN MODE

AEOLIAN MODE

LOCRIAN MODE

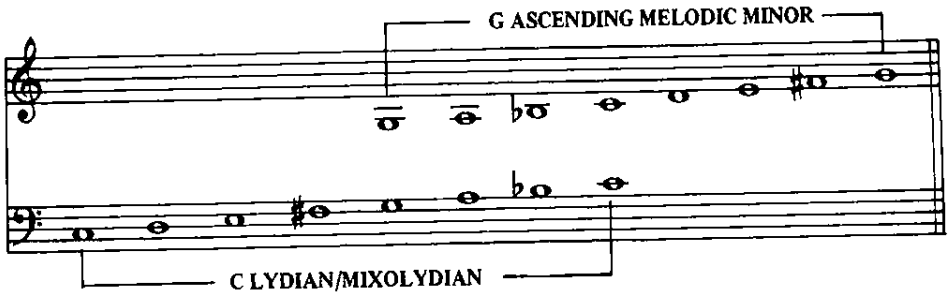
6.11 ALTERED MODES

The modes can be combined or modified. For example, the following mode is known as a Lydian/Mixolydian:

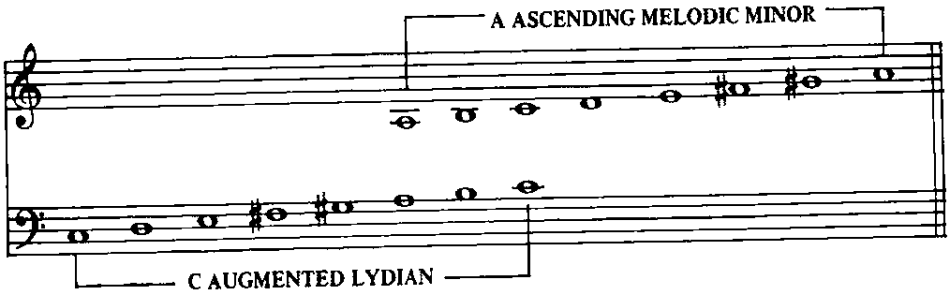


C LYDIAN/MIXOLYDIAN

Note that it is one of the altered scales already referred to and it is also a displaced ascending melodic minor scale.

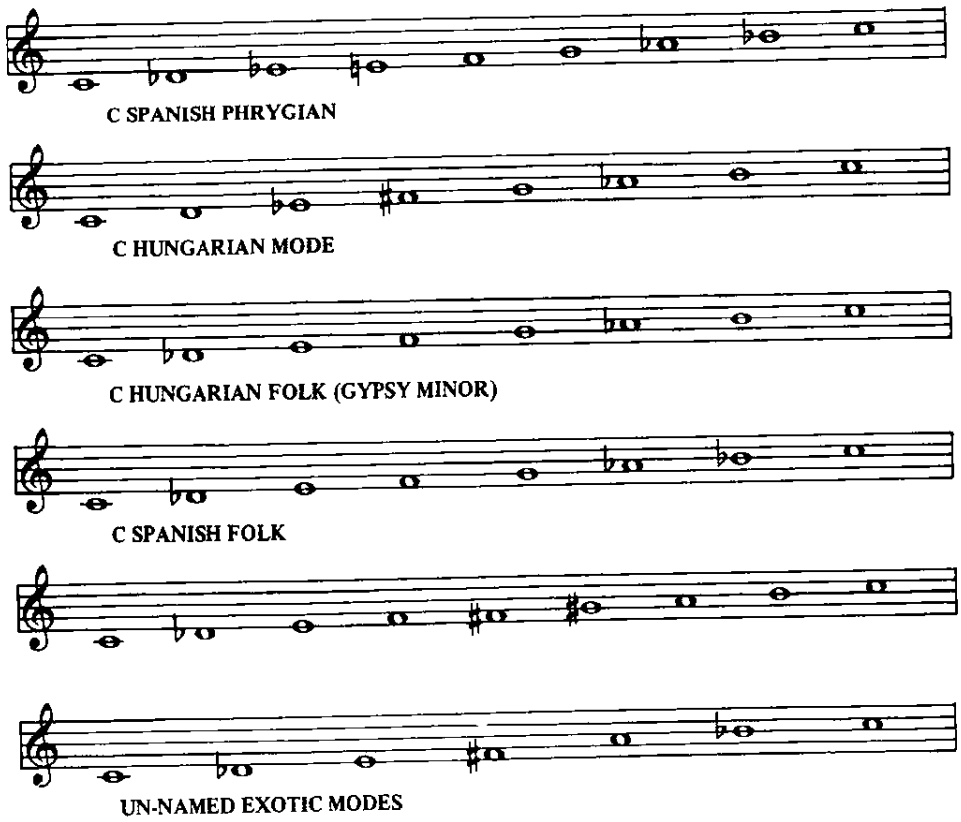


Likewise the augmented Lydian mode which comprises a raised fifth can also be described as a displaced ascending melodic minor scale.



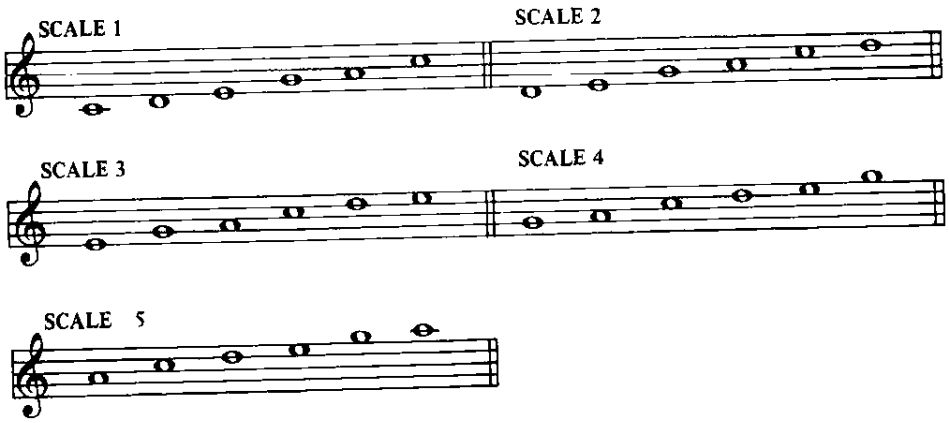
6.12 EXOTIC MODES/SCALE

The Spanish Phrygian, Hungarian and Spanish Folk modes are examples of exotic scale forms which are modified versions of the modes already described. Two additional unnamed exotic modes are also included in the table of scales.



6.13 THE PENTATONIC SCALES

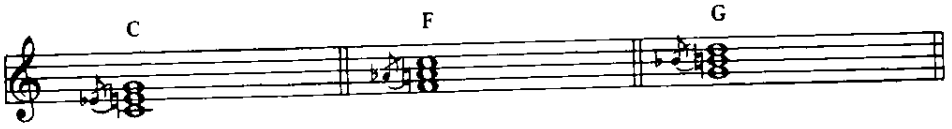
This is one of the oldest known scales. As a means of quick identification the 'black' notes on the piano form a pentatonic scale. It can start on any of the five notes, so that in addition to the standard pentatonic starting with two whole tone intervals, four auxiliary scales are formed. The following example shows the five scales based on C:



6.14 THE BLUES SCALE

In essence the blues scale is a modified major scale. It is formed by flattening the third, fifth and seventh but retaining the major third and perfect fifth.

The flattened third and fifth are known as 'blue notes' and are responsible for the characteristic sound of the blues when played against harmonies based on the major triad.



6.15 APPLICATION OF SCALES TO CHORDS

We can now examine the use of possible scales with each chord type. Each chord has more than one scale associated with it and it is left to the player to decide which one to use according to his taste. The following tables give an indication of the possibilities but it should be noted that when a chord contains alterations it is quite permissible to use a scale which incorporates other alterations not written into the chord. The player will have to use his discretion in this matter. For example a Lydian mode can be used with a major seventh chord even though the chord does not contain a raised eleventh. For simplicity only the scales which relate directly to the explicit chords are included in the tables. In the right-hand column of the tables, R indicates that the scale starts on the root of the chord. Where this is not the case the starting point of the scale is indicated by its interval above the root of the chord. The scale which is most appropriate may depend on the musical context.

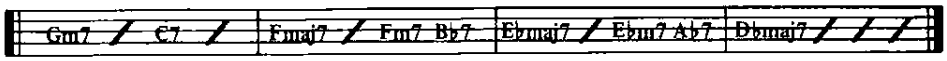
6.16 TABLE OF CHORD RELATED SCALES

CHORD	SCALE	STARTING POINT
Major Seventh or Sixth M7 M6	Major (Ionian) Lydian Pentatonic Pentatonic Pentatonic	R R M2 p5 R
Minor Seventh m7	Aeolian Dorian Pentatonic Pentatonic Pentatonic	R R m3 p4 m7
Dominant Seventh 7	Mixolydian	R
Diminished Seventh dim7	Diminished Aux. Diminished Hungarian Mode	R R R
Minor/Major Seventh m♮7	Melodic Minor (asc) Harmonic Minor Hungarian Mode	R R R
Minor Seventh (♭5) (Half-Diminished Seventh)	Locrian Altered Melodic Minor (asc) Pentatonic	R M2 m3 a5

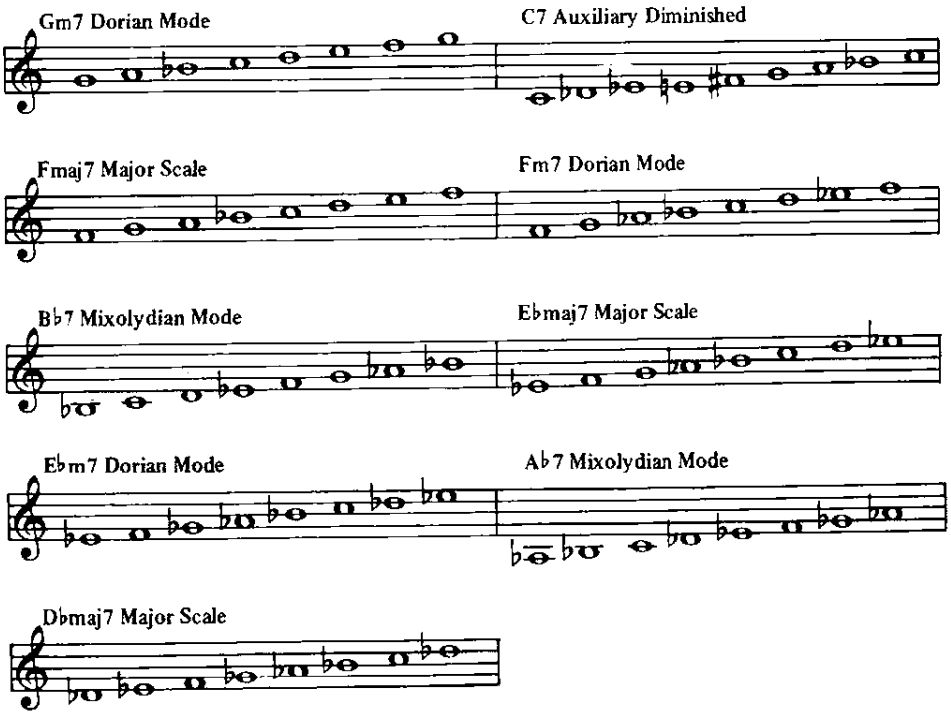
CHORD	SCALE	STARTING POINT
Augmented Dominant Seventh 7+5	Whole Tone Altered Scale Pentatonic	R R a4
Dominant Seventh (♭5) 7(♭5)	Whole Tone Altered Scale Aux. Altered Aux. Diminished Pentatonic	R R R R a4
Dominant Seventh (♭9) 7(♭9)	Altered Scale Aux. Diminished Harmonic Minor Mixolydian (♭9) Pentatonic Exotic Mode (2)	R R p4 R a4 R
Dominant Seventh (♯9) 7(♯9)	Altered Scale Aux. Diminished Pentatonic	R R a4
Dominant Seventh (♯11)	*See* Dominant Seventh (♭5)	
Dominant Seventh (♭13) 7(♭13)	*See* Dominant Seventh (+5)	
Dominant Seventh Sus⁴ 7sus⁴	Mixolydian	R
Major Seventh (+5) maj7 (+5)	Augmented Lydian	R
Major Seventh (♭5) maj7 (♭5)	Lydian Augmented Lydian	R R

Having decided on a particular scale or set of scales for a sequence the player can then use them to extract original melodic lines.

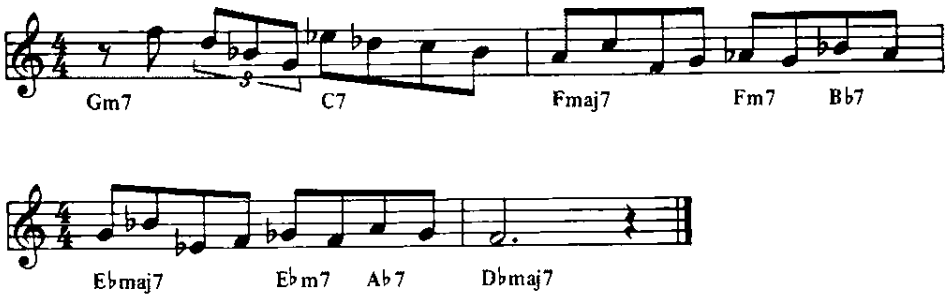
Consider the following four bars:



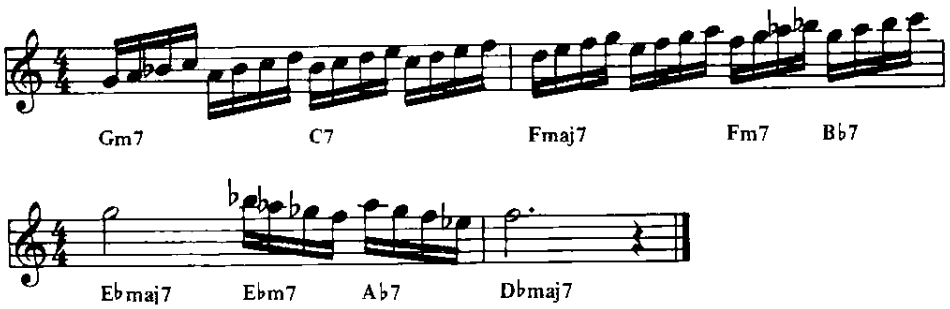
From the table, the possible scales might be as follows:



and an example of improvised lines using these scales:



Alternatively, scale patterns can be used:



In this example, the line over the C7 in bar 1 utilises an alternative scale to that used in the previous example:

Improvisation based on the foregoing principles will largely depend on experimentation with the different resources available.

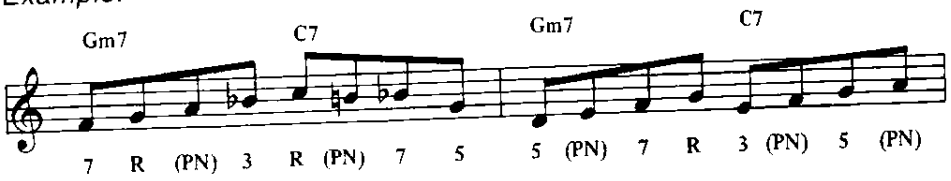
6.17 MELODIC ORNAMENTATION

The study of improvisation thus far has been confined to the intrinsic relationship between chords and scales. A scale (or mode) will of necessity contain the basic tones of the chord to which it relates but it will also comprise additional non-harmony notes which are available to the improvisor. In addition, chromatic notes which lie outside the scale can be used in the creation of a melodic line. All non-chord tones (diatonic or chromatic) are referred to as 'unessential' notes. This would seem to be a contradictory definition to the improvisor but it is 'classical' terminology used to distinguish chord tones from non-chord tones.

There are three common forms of unessential notes and these can be examined separately.

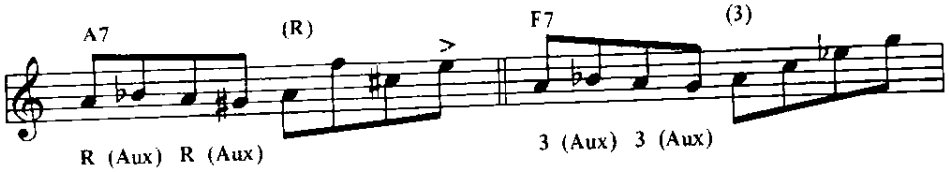
1. Passing Notes
These occur between chord tones and can be diatonic or chromatic.

Example:



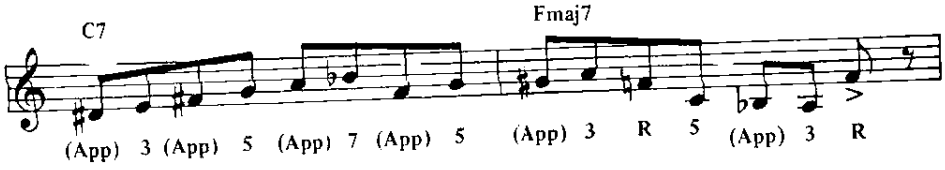
2. Auxiliary Notes
These are notes which are approached 'stepwise' from a chord tone and return to the same note. They can be diatonic or chromatic.

Example:

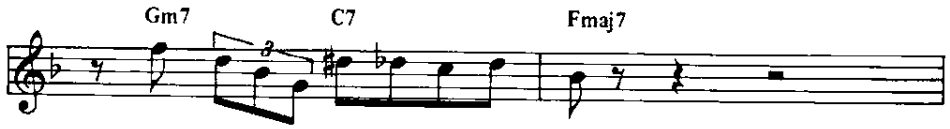


3. Appoggiatura
These are non-chord tones which occur on the strong beat and resolve to chord tones.

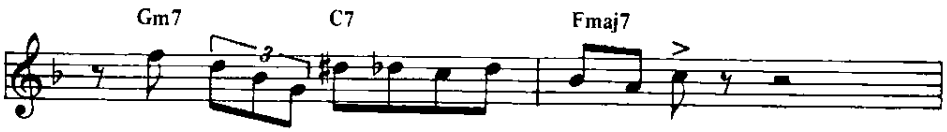
Example:



The student should examine these melodic embellishments carefully. Indiscriminate use of non-chord notes (diatonic or chromatic) can result in an unsatisfactory melodic line. In the next example a melodic line has been constructed over a II – V – I pattern comprising two bars. One of the scales related to the tonic chord, Fmaj7, is F Ionian mode (F major scale). This scale contains the non-chord tone B♭ which in this example is played on a strong beat and remains unresolved creating an unsatisfactory dissonance against the root.



In the next example the B♭ remains on the strong beat but is resolved to a chord tone. (A = third of Fmaj7). This is another example of an appoggiatura.



6.18 RHYTHMIC ASPECTS OF JAZZ IMPROVISATION

In the section on reading music (Section 1.2.), I referred to the rhythmic interpretation of written jazz. Such interpretation is not possible unless the player develops an intuitive understanding of the rhythmic nuances of this music and this can only be acquired by listening to recordings and performances by those already accomplished in the art.

It is no exaggeration to state that the European system of musical notation is incapable of accurately representing the rhythmic aspects of the jazz idiom without resorting to subdivisions of time which are mathematically complex.

The triplet interpretation of quavers is no more than an approximation but it is a more accurate representation than the dotted crotchet.

becomes:

or:

rather than:

If it is understood that the jazz musician must be capable of interpreting the music correctly for himself, then the need to write it with rhythmic precision is obviated. There is, furthermore, a case for simplifying the music by writing in straight quavers and this is an expedient which is frequently used in the transcription of recorded works.

Two additional rhythmic aspects are important to this music: syncopation and articulation. Syncopation is the displacement of rhythmic accent from a strong beat to a weak beat:

This rhythmic displacement is not in itself peculiar to jazz until it is articulated in such a way as to give added accentuation to the weak beats:

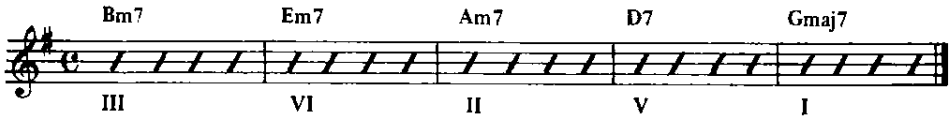
If this rhythm pattern is written with the triplet interpretation referred to earlier, the student will appreciate the rhythmic complexity of the music.

The student should obtain transcriptions of recorded solos and compare these with the actual recording. In this way he will gain a much deeper understanding of the rhythmic principles than could be acquired by an academic approach.

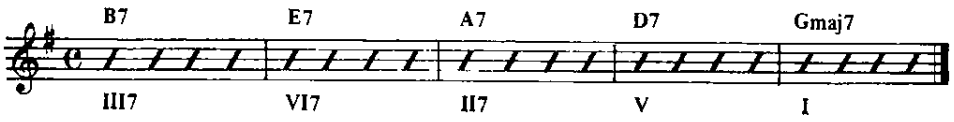
7. FURTHER CONSIDERATIONS IN HARMONY

7.1 SECONDARY DOMINANT SEVENTHS

In the major/minor scale systems the dominant seventh occurs naturally on the dominant note of the scale. It is possible, however, to use secondary dominant sevenths in place of the II, III, and VI chords. These chords occur naturally as minor sevenths so the substitution has to be clarified with the use of Arabic numerals. Thus the sequence:



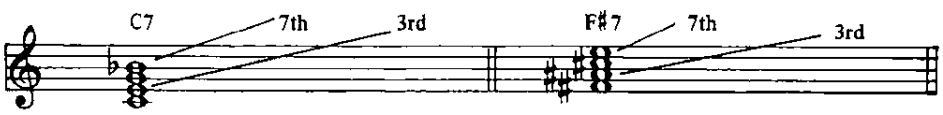
becomes:



Care has to be exercised in making any substitution to ensure that a melody line is unaffected, otherwise it may have to be paraphrased.

7.2 THE FLATTENED FIFTH SUBSTITUTION

The importance of the third and seventh of a chord has already been established. If for a dominant seventh the harmonic roles of these notes are reversed, *ie* they are considered as a seventh and third respectively, it will be found that the root of the new chord to which they belong is a flattened fifth (or diminished fifth) from the chord from which they originated. *For example,* the third and seventh of Cdom7 are E and B♭. These notes are the seventh and third respectively of F♯dom7. The interval between C and F♯ is a diminished fifth and each chord is said to be the flattened fifth substitution for the other.



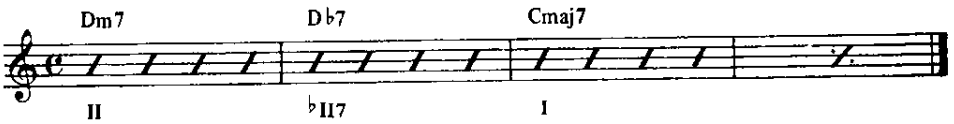
When the chord Cdom7 resolves to Fmaj7 the third (E) resolves to the root (F) and the seventh (B♭) resolves to the third (A). The same melodic tendency will also occur with F♯dom7 resolving to Fmaj7. The seventh (E) will resolve to the root (F) and the third (A♯) will resolve to the third (A).

Since the third and seventh of both chords have the same tendency to resolve to F major the chords can be legitimately substituted for one another provided that the melody permits it.

If we now examine the progression II – V – I we can make the substitution as follows:

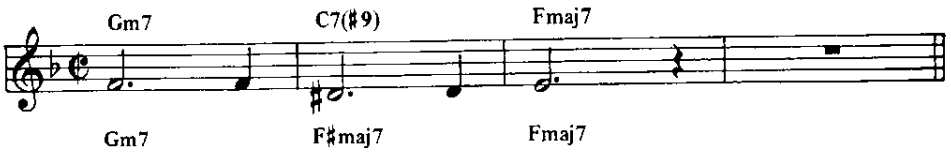
For example:

becomes:

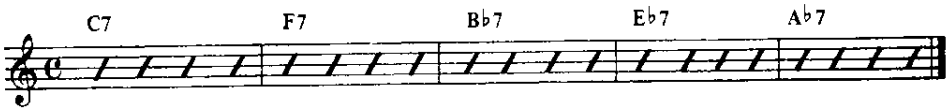


This is an example of a flattened fifth substitution. Note that the cycle of fifths progression has been converted to a chromatic progression.

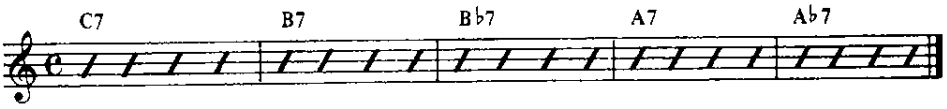
If the melody note for the second chord permits, a major seventh can be played instead of the dominant seventh.



The substitution can be applied in any situation where the melody permits and is not restricted to the movement II – V – I as shown in the following example.



becomes:



It is interesting to note that the left-hand voicings discussed earlier are also interchangeable. The voicing 7 9 3 13 for a dominant seventh is also 3 +5 7 ♯9 for its flattened fifth substitution.

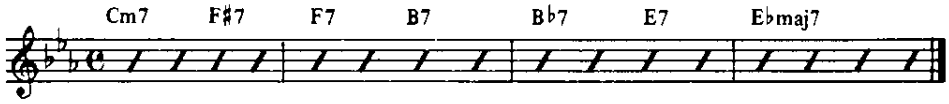
The flattened fifth relationship, like the cycle of fifths, should be studied until it is automatic. There are six such relationships:

C ⟷	F♯
F ⟷	B
B♭ ⟷	E
E♭ ⟷	A
A♭ ⟷	D
D♭ ⟷	G

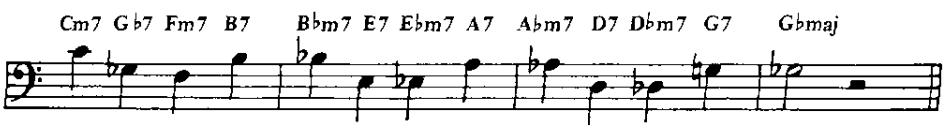
7.3 PASSING CHORDS

The chords derived from the flattened fifth substitution can also be used to extend a chord sequence and thereby make it harmonically more interesting. This can be achieved by following a chord with its substitution, as shown in the next example:

becomes:

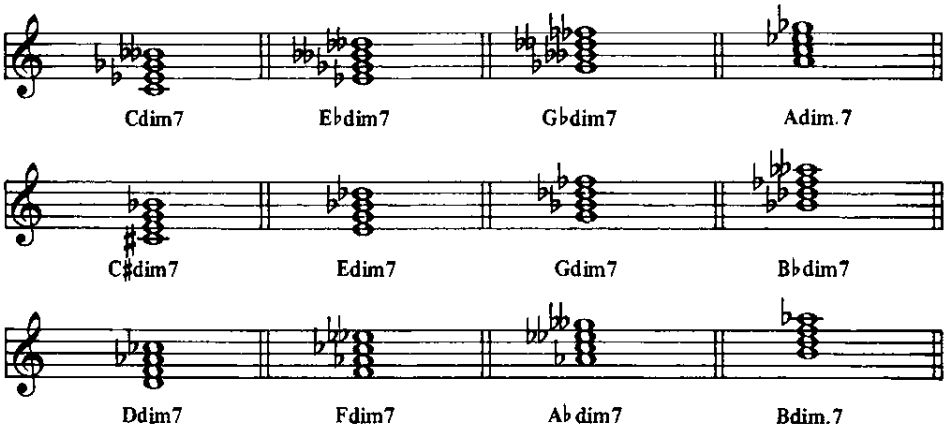


In this example the F♯7, B7 and E7 are passing chords. The roots of these chords will often be used in the cycle progression by bass players to produce the following typical bass line:



7.4 THE DIMINISHED SEVENTH CHORD

The diminished seventh chord occurs naturally on the seventh degree of the harmonic minor scale. It has a symmetrical construction in minor thirds and consequently sounds similar in all its inversions. It also sounds atonal and can have any one of its constituent notes as its root. If the inversions are taken into consideration it can be said that there are only three such chords.



Note that in the writing of diminished chords on the stave, due regard has been paid to the 'enharmonic' naming of the notes involved. For example, the top note of the F diminished chord is E𝄫 (double flat) and not D natural. This is because seventh chords of any type are constructed in thirds and the appropriate alphabetical naming of the notes should be respected. The principle can be readily explained by reference to the scale-tone chords derived from the 'white' notes C-C'.

Example A:

F dim7
The 'white' scale-tone chord is Fmaj7 *ie* F A C E
Converting this chord to F dim7 it becomes:
F A♭ C♭ E𝄫

Example B:

C♯ dim7
The 'white' scale-tone chord is Cmaj7 *ie* C E G B
Converting this chord to C♯ dim7 it becomes:
C♯ E G B♭

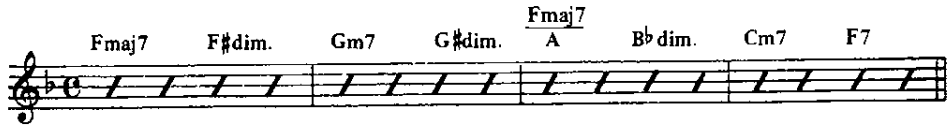
Example C:

B♭ dim7
The 'white' scale-tone chord is Bm7 (♭5) *ie*
B D F A Converting this chord to B♭ dim7 it becomes:
B♭ D♭ F♭ A𝄫

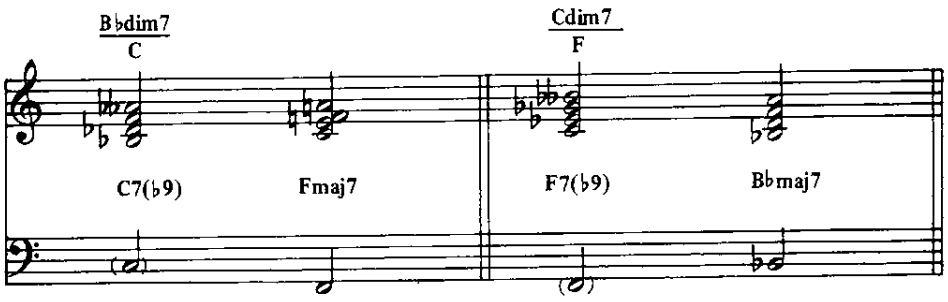
Diminished chords are most frequently used chromatically as passing chords. Care has to be taken to ensure that the correct root is used for the sake of the bass line:

Example A:

Example B:



The diminished chord also occurs as a component of a dominant seventh with a flattened ninth as was shown in the polychord tables. In this instance it will resolve to the same chord as the dominant from which it is derived.



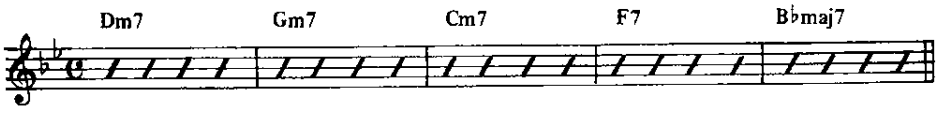
7.5 ALTERED CHORD SEQUENCES

Chord sequences can be altered to effect an improvement or for the sake of harmonic variety. In making such alterations consideration has to be given to the melody line to ensure that the new chords are appropriate. Alternatively, a melody can be paraphrased to fit a new sequence. These considerations need only apply to the stated theme. In improvisations the melody line is the sole 'property' of the individual player who is free to make any alterations he chooses, provided there is sufficient empathy with the other musicians. Alterations used in improvisation can also be written into an arrangement.

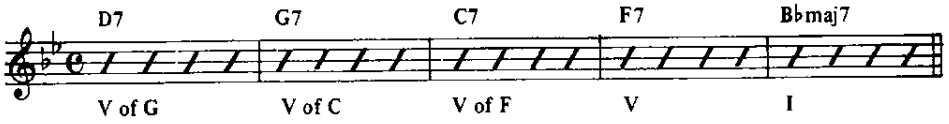
We have already encountered two devices for altering a chord sequence:

(a) Secondary dominant sevenths.
(b) Flattened fifth substitution.

In both cases the alterations can be considered as temporary modulations to other keys. Consider the unaltered sequence III – VI – II – V – I.

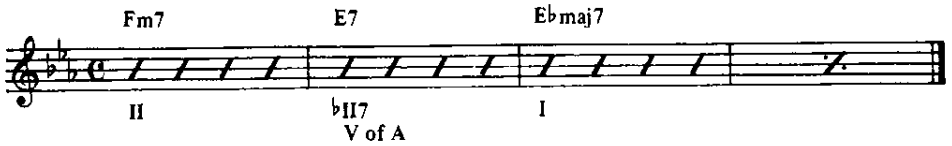


Each of the chords is contained within the parent key. If secondary dominant sevenths are substituted the sequence becomes:



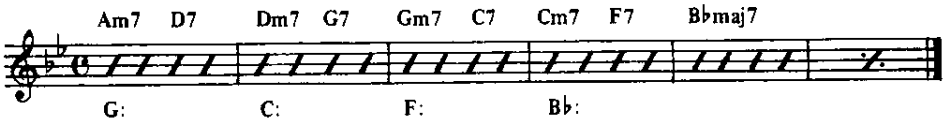
Each of the first three dominant sevenths relates to another key. Thus bar 1 can be considered as being temporarily in the key of G, bar 2 in the key of C and bar 3 in the key of F. The same principle can be applied to the flattened fifth substitution.

For example; in the sequence:

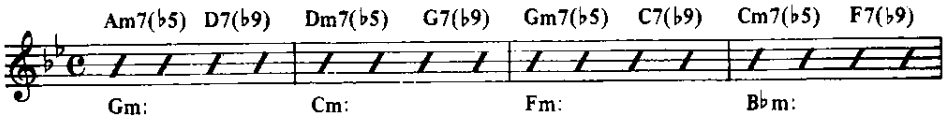


the second bar can be thought of as being in the key of 'A'. This concept of temporary modulation is useful in understanding altered chord sequences. In the foregoing examples the temporary keys have been determined by a dominant seventh but as we have already seen, the progression II – V also establishes a key centre and this can be used to add further interest to sequence.

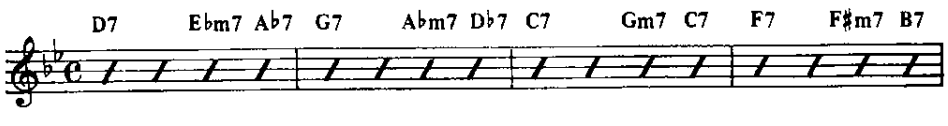
becomes:



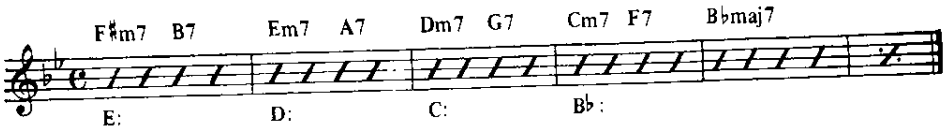
Temporary modulations to the minor keys can also be used:



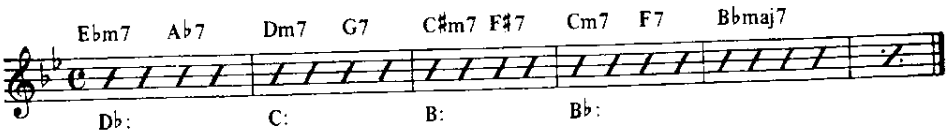
Modulations involving the passing chords offer yet another alternative:



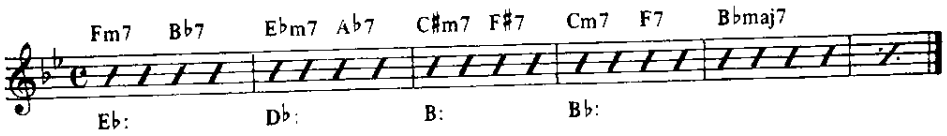
The final B♭ chord can also be approached with a II – V pattern using the cycle of fifths throughout:



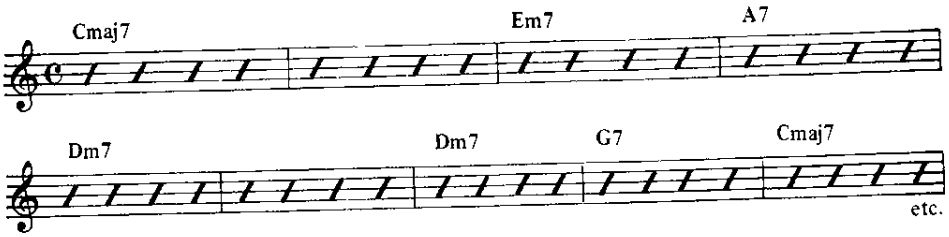
With each successive bar the tonal centre moves by tones, *ie* E to D to C to B♭. It is also possible for the tonal centres to move by semitones:



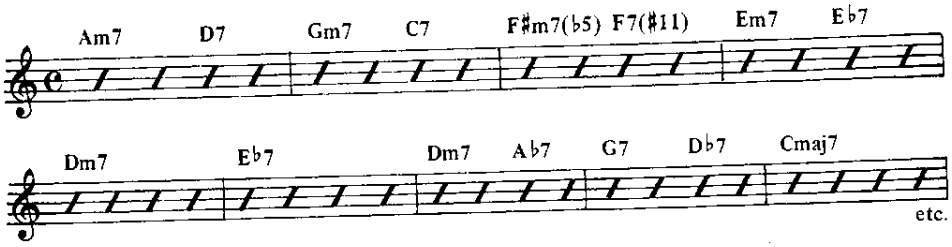
or a combination of both devices:



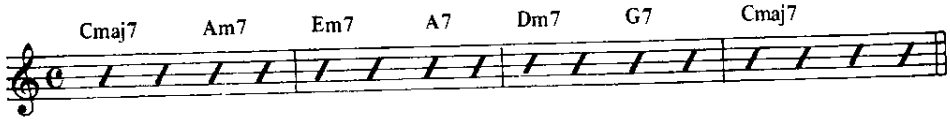
The above examples show the principle of substitution being used to approach a tonic major seventh but it can be used to approach any type of chord. The following example shows how the first four bars of a standard tune can be altered to approach a minor seventh on the fifth bar.



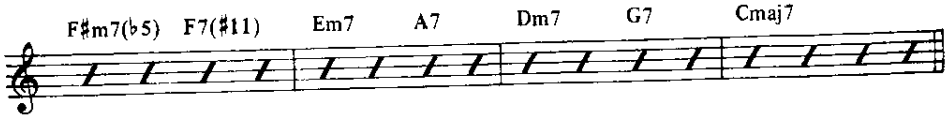
becomes;



Here is another example in which the opening tonic chord is replaced by the flattened fifth half-diminished:

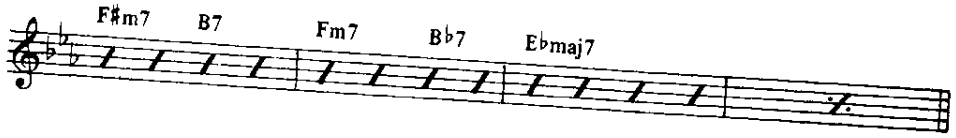


becomes:

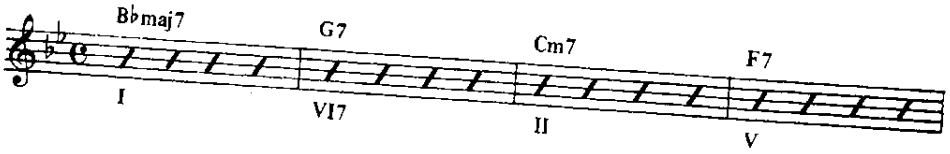


The semitone modulation referred to earliér was often used by Be-Bop players in a II – V – I pattern at the end of a tune:

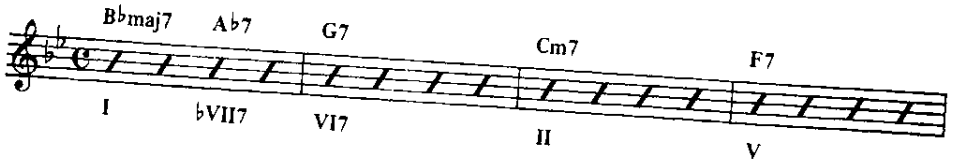
becomes:



Yet another example involves the addition of a chord between I and VI as follows:



becomes:



In order to become fluent in the use of the alterations they should be studied in every key. To this end, the study sequence in *Appendix A* will be found useful.

7.6 MODAL CLUSTERS

The modal cluster is a twentieth-century harmonic device first used by composers like Ravel and Stravinsky. It is simply a group of close position voices which can be used to denote harmonies and can therefore serve as a left-hand voicing for accompaniment.

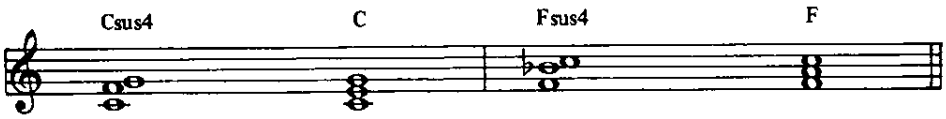
The modal clusters most frequently used by jazz pianists can be derived from the left-hand voicings discussed earlier and is best explained by considering a single example:

The various chords suggested by this cluster are shown in the following table with the voices numbered in the usual way:

E♭maj7	7 | R | 3
Cm7	9 | 3 | 5
F7	13 | 7 | 9
Am7(♭5)	11 | 5 | 7
Cm♮7	9 | 3 | 5
Cm6	9 | 3 | 5

7.7 THE SUS4 CHORD

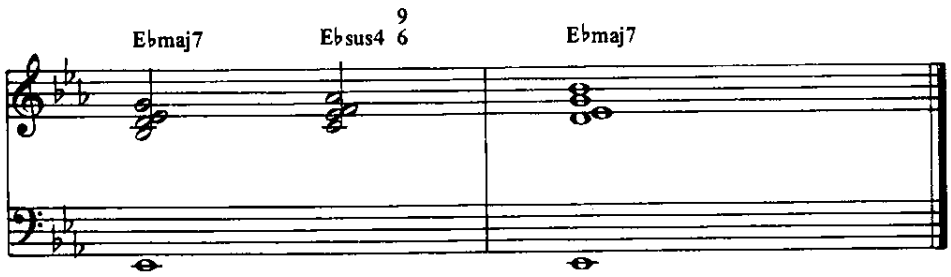
The 'suspended fourth' chord (sus^4) is a special form of triad in which the third is replaced by a fourth above the root. The fourth is regarded as suspended pending resolution to the major third.



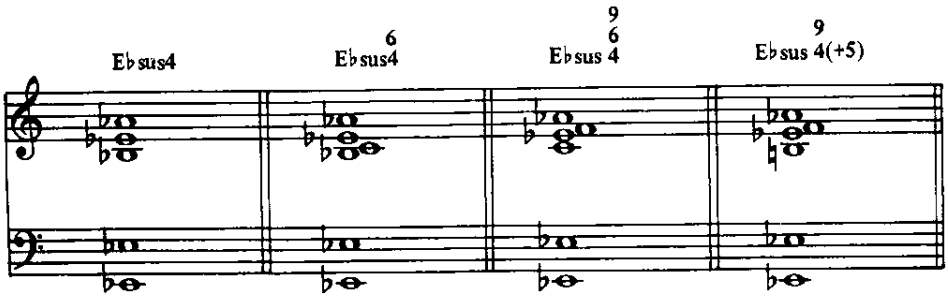
Note that the third and the fourth are not played simultaneously. This device has two particular applications:

(a) Major sus^4 chords

The suspended fourth can be used with a major chord for the sake of a melodic line as in the following example:



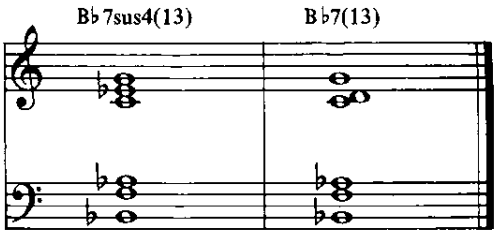
The major sus^4 chord can be played with or without other added notes although the addition of a major seventh does not sound good, the major sixth being a better alternative as in the above example. Other alternatives are shown below:



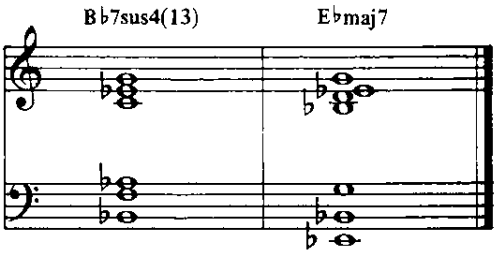
(b) Dominant seventh sus^4

The dominant sus^4 is a sus^4 triad with a minor seventh added above the root and this can be used in the same way as standard dominant seventh. The suspension can be resolved within the dominant seventh but this is not obligatory.

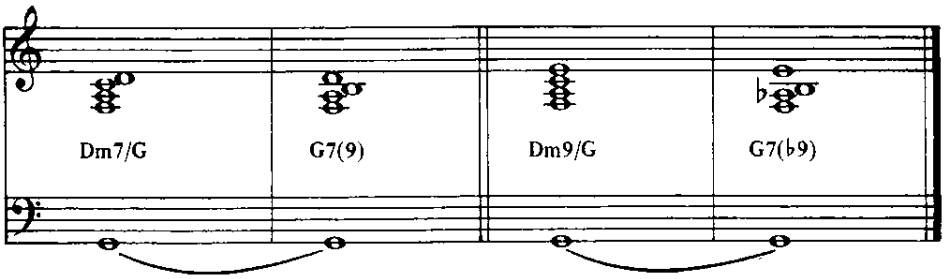
suspension resolved inside V chord



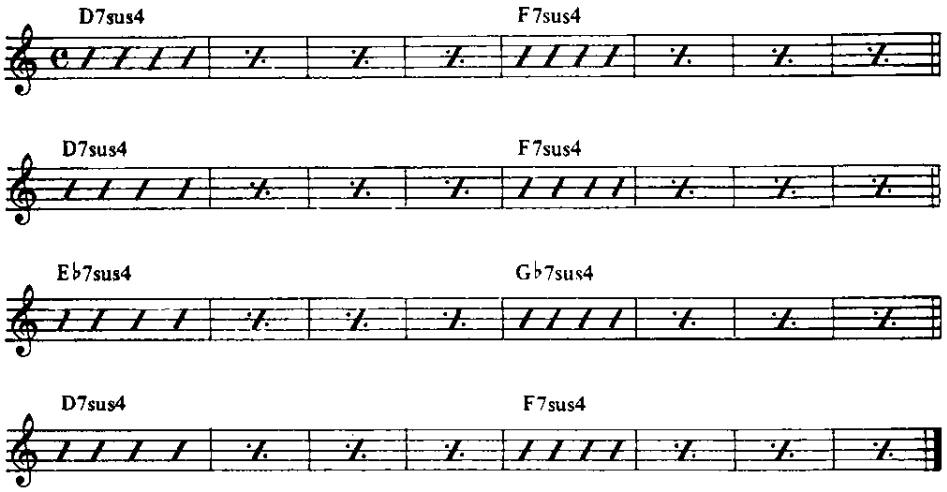
suspension resolved in I chord



An alternative way of using the suspension is to play the II chord over a dominant pedal point and resolve it to the dominant seventh:



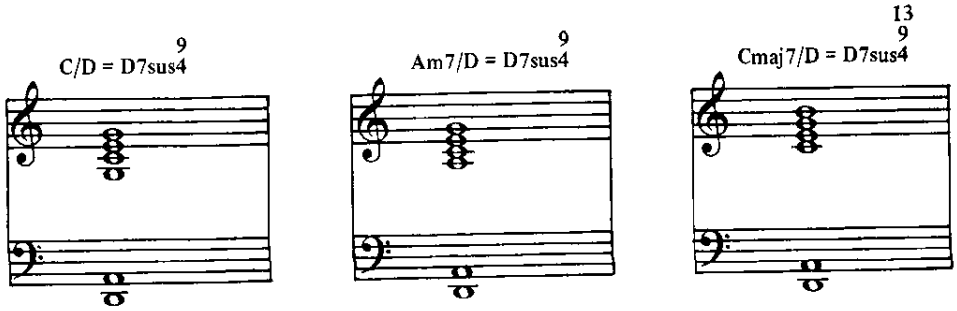
The dominant 7 sus^4 has a further use in 'modal' jazz in which it denotes a tonal centre but does not resolve within a chord sequence. One of the earliest and best known examples of the chord being used in this way is Herbie Hancock's composition *Maiden Voyage*. This tune comprises four such chords each denoting a different tonal centre.



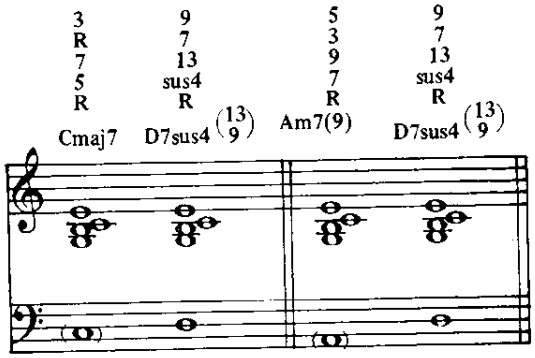
Although the harmonic suspensions never resolve, the chords can be thought of as dominant sevenths against which a Mixolydian mode can be used in improvisation:

D7sus^4 (D MIXOLYDIAN)
(D7 from Gmajor tonality)

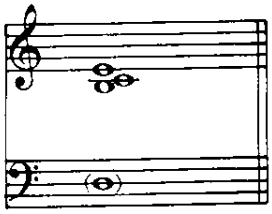
The dominant sus^4 can also be thought of in terms of superimposed chords. This is similar in principle to polychordalism except that the polychord device presupposes a four-note chord in the left hand. In the following examples the chords are superimposed over a separate root or root and fifth.



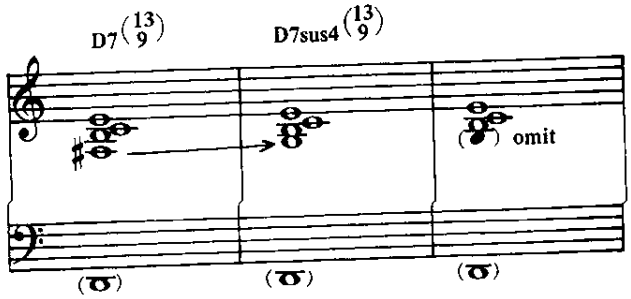
It is interesting to note that the left-hand voicings of the superimposed chords can be used to denote the dominant seventh sus^4 chord because they contain both the suspended fourth and the seventh.



Alternatively a modal fragment can be used in the left hand and this can be derived by omitting the lowest voice in the above example.



Remember that the left-hand voicing for a dominant seventh cannot be used unless the third is omitted or replaced by the sus^4. Consider the voicing 3 13 7 9 for D7 and modify it for use as a dom7 sus^4:

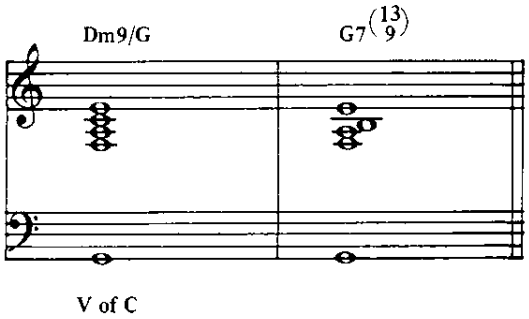


The end results are the same as the left-hand voicings already considered, but it is worth considering the alternative derivations to appreciate the underlying harmonic logic. The following table shows the twelve dominant sus^4 chords expressed as superimposed chords:

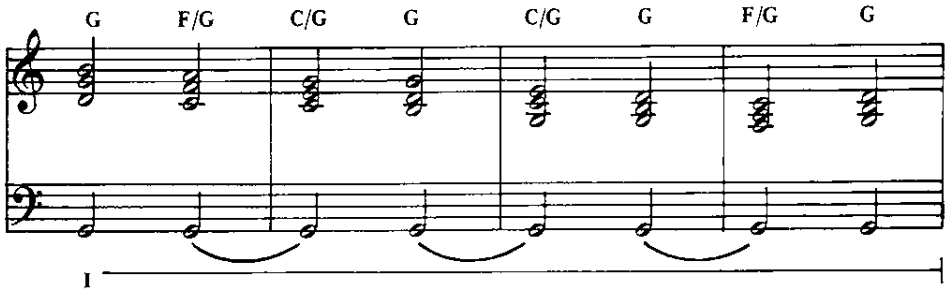
	sus^{4}9	**sus^{4}9**	**sus^{4}9, 13**	**sus^4♭9**
C7 sus^4	Gm7 / C	B♭ / C	B♭maj7 / C	B♭m / C
F7 sus^4	Cm7 / F	E♭ / F	E♭maj7 / F	E♭m / F
B♭7 sus^4	Fm7 / B♭	A♭ / B♭	A♭maj7 / B♭	A♭m / B♭
E♭7 sus^4	B♭m7 / E♭	D♭ / E♭	D♭maj7 / E♭	D♭m / E♭
A♭7 sus^4	E♭m7 / A♭	G♭ / A♭	G♭maj7 / A♭	G♭m / A♭
D♭7 sus^4	A♭m7 / D♭	B / D♭	Bmaj7 / D♭	Bm / D♭
G♭7 sus^4	D♭m7 / G♭	E / G♭	Emaj7 / G♭	Em / G♭
B7 sus^4	F♯m7 / B	A / B	Amaj7 / B	Am / B
E7 sus^4	Bm7 / E	D / E	Dmaj7 / E	Dm / E
A7 sus^4	Em7 / A	G / A	Gmaj7 / A	Gm / A
D7 sus^4	Am7 / D	C / D	Cmaj7 / D	Cm / D
G7 sus^4	Dm7 / G	F / G	Fmaj7 / G	Fm / G

7.8 PEDAL POINT

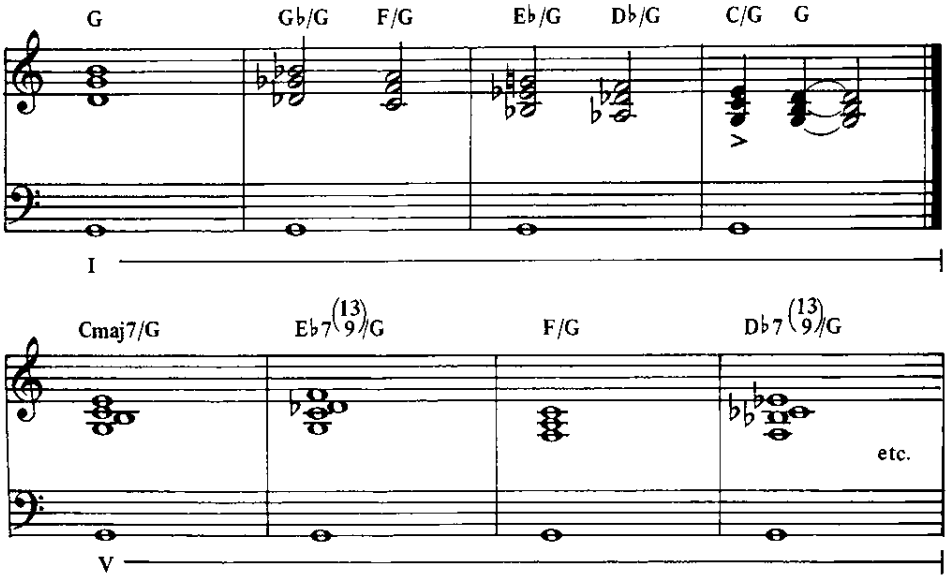
Pedal point involves the use of a sustained bass note or tonality over which changing harmonies are played. In jazz the pedal point is usually the tonic or the dominant or both together. The harmonies played over the top can be diatonic or chromatic. One example of diatonic harmonies played over a pedal point has already been shown with the dominant seventh sus^4 chord played as a II chord over a dominant bass and resolving to a V chord:



In the next example triads are used over a tonic pedal point. Although the triads are derived from the parent key (*ie* diatonic) they create an interesting sequence of tension and resolution:



The harmonies over the pedal point can also be chromatic, creating greater scope for tension and resolution:



7.9 THE JULIARD SYSTEM

The idea of using Roman numerals to indicate functional harmony has the advantage that a chord sequence described by this method will be applicable to any key. This system has its origins in classical music but has been adapted for use in jazz, as has been shown in earlier sections of this book. It has been further developed by the Juliard School of Music (USA) for use as a comprehensive harmonic system indicating chord type and key modulation. In the Juliard system a Roman numeral used on its own will indicate the chord type which occurs naturally in the major scale. Chord constructions, other than those occurring naturally in the major scale, are clarified with a chord symbol. The chord symbols used are as follows:

MAJOR SEVENTH	M
MINOR SEVENTH	m
DOMINANT SEVENTH	x
HALF-DIMINISHED SEVENTH	ø
DIMINISHED SEVENTH	o

Consider for example, the key of C major.
In the Juliard system:

I	is	Cmaj7 or Cmaj6
II	is	Dmin7
III	is	Emin7
IV	is	Fmaj7 or Fmaj6
V	is	G7
VI	is	Amin7
VII	is	Bmin7 (♭5)

If the chord type is changed a symbol is used.

For example:

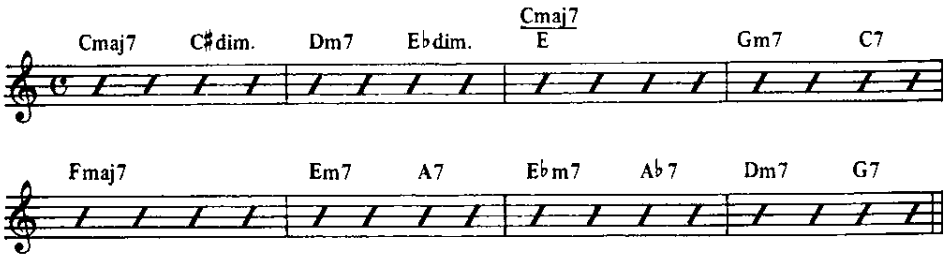
Cm♮7	is indicated	by Im
C7	is indicated	by Ix
D7	is indicated	by IIx
Em7(♭5)	is indicated	by IIIø
Fmin7	is indicated	by IVm
Gmin7	is indicated	by Vm
Am7(♭5)	is indicated	by VIø
Bdim7	is indicated	by VIIo

Chromatic chords are indicated by placing a sharp or flat in front of the Roman numeral.

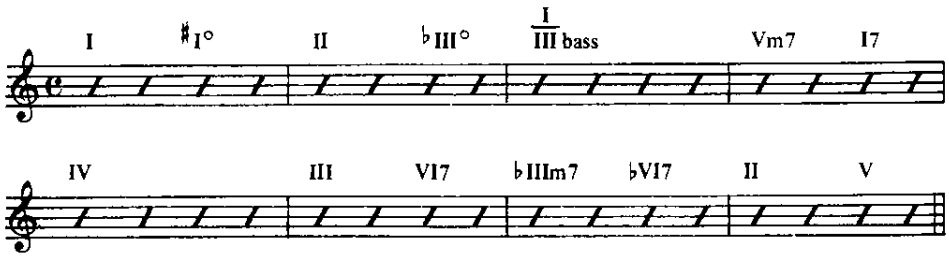
For example: In the key of C major the progression:

would be indicated as:

and the progression:



would be indicated as:



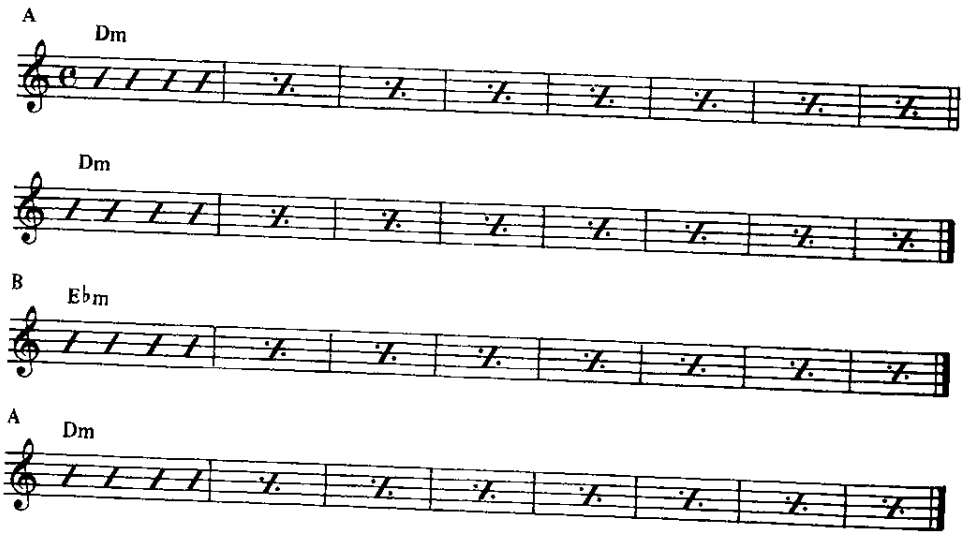
8. MODAL JAZZ AND ALTERNATIVE TONAL SYSTEMS

8.1 MODAL JAZZ

The music considered thus far has been based on the tone/semitone construction of the major and minor scales and is said to be diatonic.

In the 1960s, trumpeter Miles Davis and saxophonist John Coltrane began using an alternative approach involving the use of modes as tonal centres. This is known as modal jazz and although the modal concept was not new in music or peculiar to jazz, its use at the time represented a musical revolution in the jazz idiom.

One of the earliest examples of a tune employing modal devices is a composition by Miles Davis called *So What*. This tune retains the 32-bar format of a standard tune (A + A + B + A) but is tonally quite different.



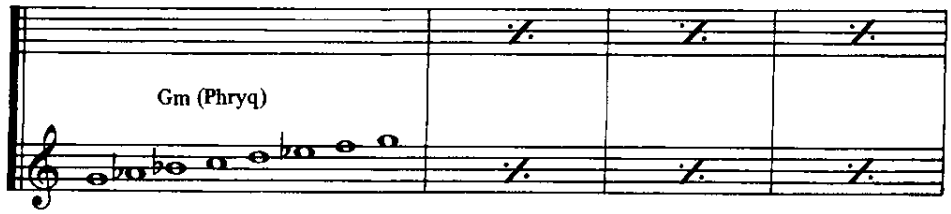
At first it would appear to contain two chords but it would be more correct to regard the tune as having two modal centres:

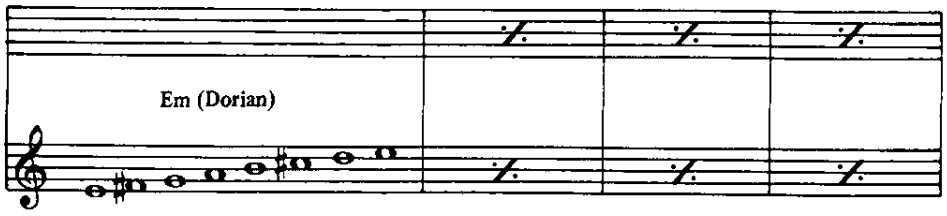
A section: Dminor Dorian Mode
B section: E♭minor Dorian Mode

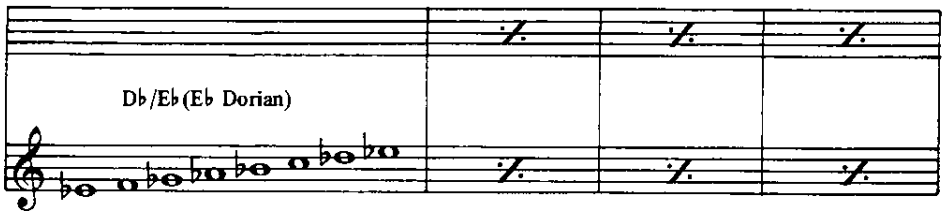
In the early days of modal jazz the Dorian mode was the most commonly used tonal basis, but in recent years all the Greek modes and their exotic variations have been used in compositions. Furthermore, jazz composers have combined the modal devices with diatonic harmonies, giving additional variety to the music.

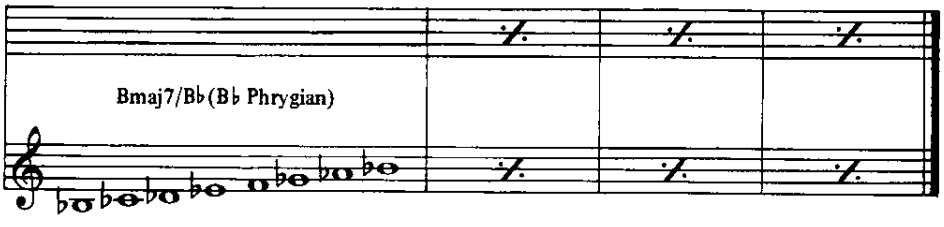
For the purpose of improvisation the composer needs to specify the modes to be used by setting out a chart similar to the chord charts described in an earlier section. It may be helpful to write out the sequence of notes

appropriate to the mode to give the player some guidance. The following example shows a typical chart:









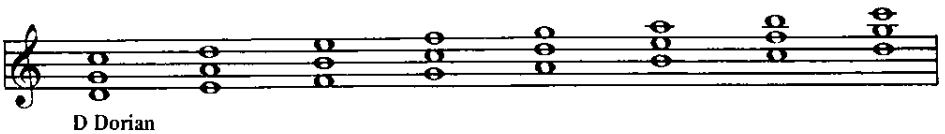
Listening to modal jazz it will soon become apparent that its character is quite different to diatonic music. It seems to have a floating almost ethereal quality as if in a state of suspended animation.

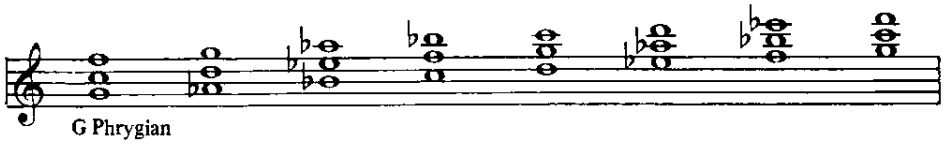
The principles of harmony used in diatonic music are no longer applicable, largely because there are no tendency tones in the modal system. Chords constructed in thirds (tertiary harmony) depend on this melodic tendency and consequently if they are used incorrectly will sound incongruous in a modal context.

The problem of playing harmonies in modal jazz can be solved with the use of an interval whose quality is compatible with the character of the music. This interval is the fourth.

8.2 CHORDS CONSTRUCTED IN FOURTHS (QUARTAL HARMONY)

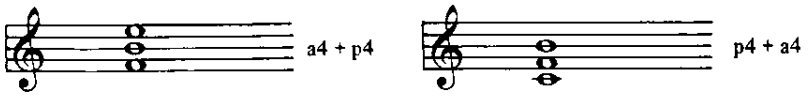
Chords can be constructed in successive fourths above a root in a similar fashion to diatonic chords built up in thirds. The chords thus formed can be played on each note of the mode.



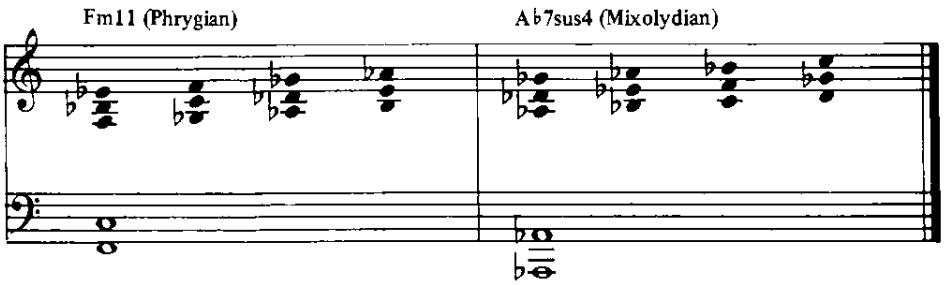


Note that there are two types of chord occurring in these modes:
(a) Chords comprising two perfect fourths:

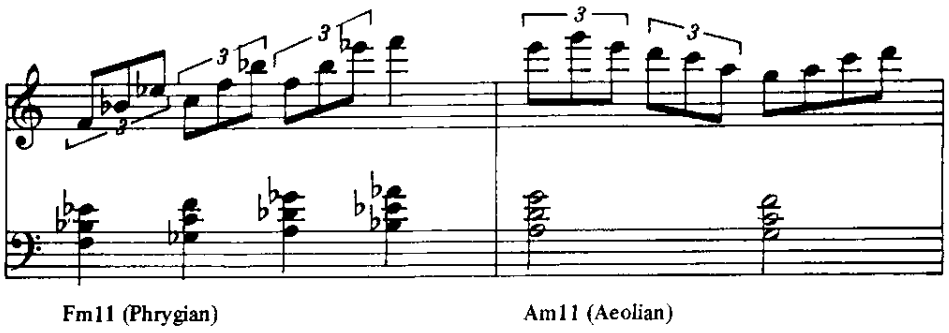
(b) chords comprising a perfect fourth and an augmented fourth:



The 'open' sound of these chords, together with the quality imparted by the fourths, makes them suitable for modal jazz. Each of the chords played on its own can be said to denote the tonality from which it is derived but it is better that they are played in a horizontal shifting parallel pattern:



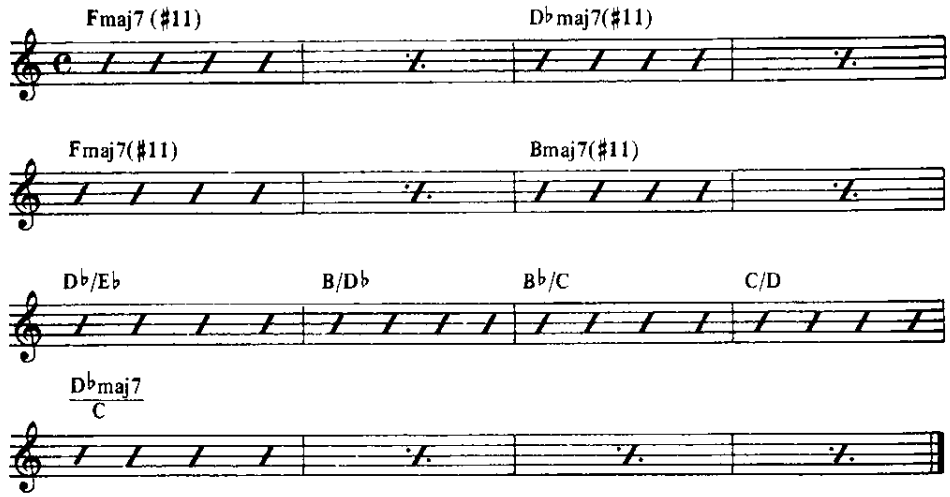
These patterns can also be used in the left hand as devices to accompany right-hand improvisations:



In order to play modal jazz it is necessary to have a working knowledge of the modes described in the section on scales for they are all relevant to this study. This should not present any great difficulty if the player is familiar with major scales, for these can be used as a starting point to learning the note patterns.

8.3 DIATONIC/MODAL JAZZ— OPEN KEY

It is possible to use single chords to denote tonal centres. This principle employs a combination of diatonic and modal approaches. In music so constructed there is rarely a parent tonality and the music is said to be in 'open key'. Accidentals are written into the music. Since the chords are used to denote changes in tonality (modulation) they need not bear any direct relationship to one another.



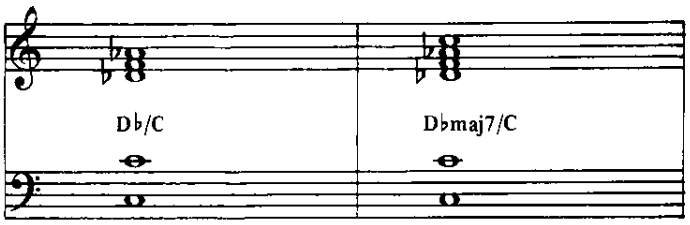
For the purpose of improvisation this chord chart could be interpreted as follows:

	EXAMPLES OF POSSIBLE MODES	
Bars 1, 2, 5 and 6	F LYDIAN	
Bars 3 and 4	D♭ LYDIAN	
Bars 7 and 8	B LYDIAN	
Bar 9	E♭ MIXOLYDIAN	(E♭sus^4)
Bar 10	D♭ MIXOLYDIAN	(D♭sus^4)
Bar 11	C MIXOLYDIAN	(C sus^4)
Bar 12	D MIXOLYDIAN	(D sus^4)
Bars 13 to 16	C LOCRIAN	

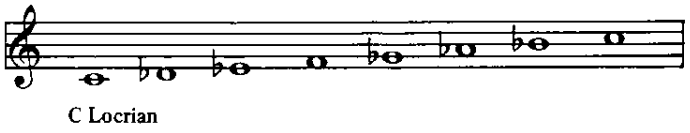
8.4 SUPERIMPOSED CHORDS— A FURTHER STUDY IN TONALITY

The method of deriving the dominant sus^4 chord using superimposed chords can also be used to describe other chord types and establish tonality.

For example:
Consider playing a D♭major triad or a D♭maj7 over a C bass:



This method of identification is useful, for although the notes in the above example constitute a D♭maj7, a D♭major tonality is not intended. The example actually denotes a tonality based on C. It could suggest a Locrian mode:


C Locrian

or a Phrygian mode:


C Phrygian

or any other suitable modal construction provided that the combination of D♭ and C falls within it. An added advantage of the system is that it avoids having to describe the chord as having a C root, for this results in a cumbersome description:

$$C(\flat 9)\ sus^4\ (+5)\ (no3rd\ no7th) = \frac{D\flat}{C} \quad or \quad \frac{D\flat maj7}{C}$$

The example considered shows a triad (or major seventh) placed over a root a semitone below it. Other relationships are possible with chord superimposition and they are shown in the following table:

INTERVAL FROM ROOT	CHORD TYPE	EXAMPLE USING C BASS
m2	MAJOR TRIAD	D♭/C
m2	MAJOR SEVENTH	D♭ maj7/C
m2	MAJOR SEVENTH (♭5)	D♭maj7 (♭5)/C
m2	MAJOR SEVENTH (+5)	D♭maj7 (+5)/C
M2	MAJOR TRIAD	D/C
m3	MAJOR TRIAD	E♭/C
M3	MAJOR TRIAD	E/C
p4	MAJOR TRIAD	F/C
a4	MAJOR TRIAD	F♯/C
p5	MINOR SEVENTH	Gm7/C
m6	MAJOR SEVENTH	A♭maj7/C
M6	MAJOR TRIAD	A/C
m7	MAJOR TRIAD	B♭/C
m7	MAJOR SEVENTH	B♭maj7/C
M7	MAJOR TRIAD	B/C

9. SOME PRACTICAL CONSIDERATIONS

9.1 THE STANDARD TUNE CONSTRUCTION

When a jazz musician talks of playing a 'standard', he is referring to a popular song form, the melody for which often originates from Tin Pan Alley or one of the Broadway shows. Standards are normally thirty-two bars in length and, although there are exceptions to this, the general format is usually the same.

The thirty-two bars can be made up in two ways:

(a) two sixteen-bar sections (A + B) with the second sixteen being a variation of the first.

(b) four eight-bar sections (A + A + B + A) with the first eight bars repeated and followed by a different eight-bar section known as the 'middle eight' or 'bridge'. The first eight bars are then played once again.

There are often similarities between the harmonies of standards and it is worth studying some of the various possibilities.

The first requirement with any tune is to establish its key and in connection with this there are three points which should be noted:

(1) Standard tunes do not always commence with a tonic chord in the first bar and it is therefore necessary to refer to the final bars to establish tonality.

(2) Standard tunes will almost invariably incorporate a modulation to another key at some point.

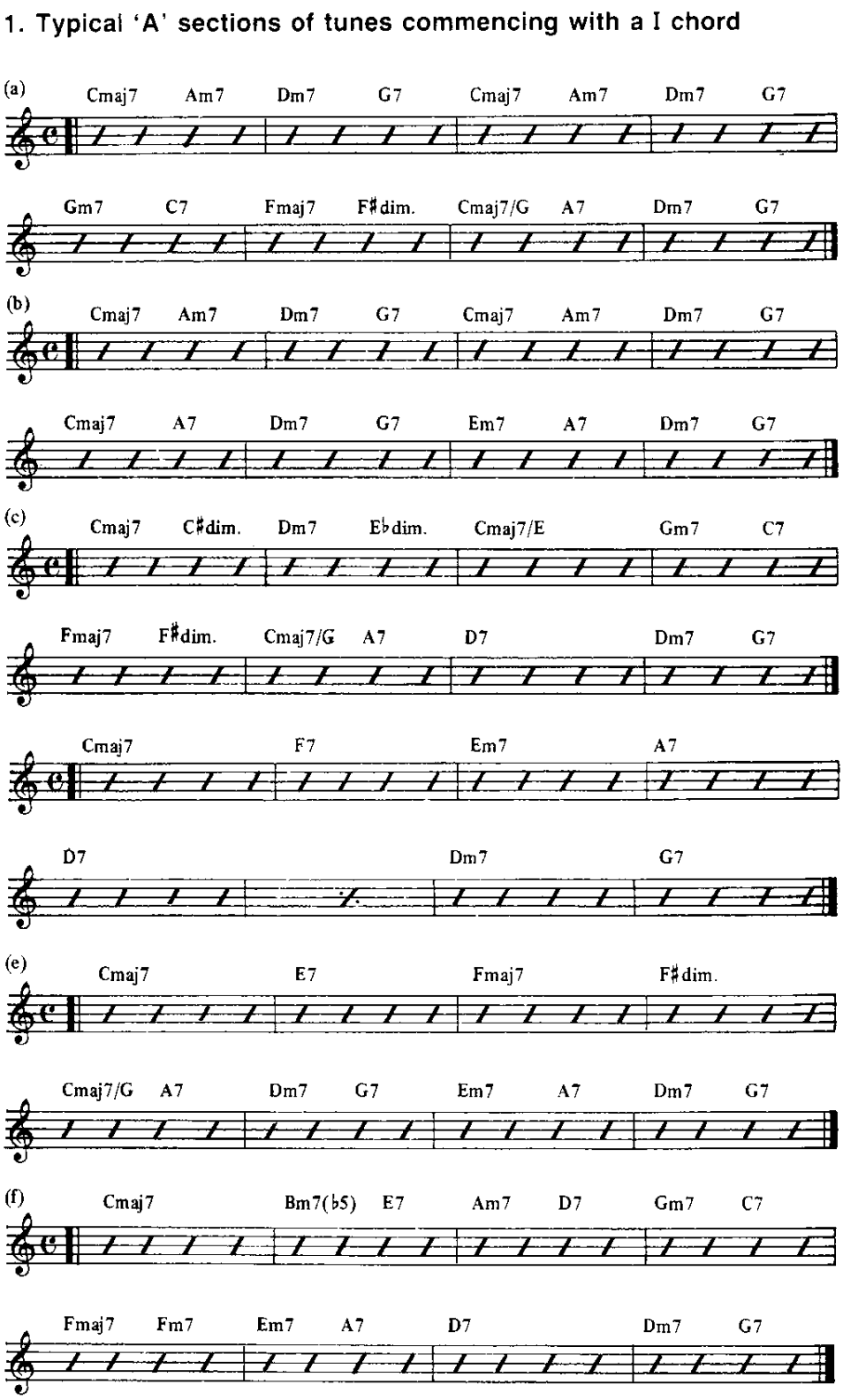
(3) Generally, tunes will be played in the 'written' key and in some cases one or two other keys. *For example:* Jerome Kern's *All the Things You Are* is played in A♭major; and Gershwin's *I Got Rhythm* in B♭major.

Despite this tradition it is good practice to learn tunes in as many keys as possible. This has obvious advantages in terms of musicianship but would also pay dividends in a situation where, for example, a singer has difficulty with the pitch of the original key and therefore transposes.

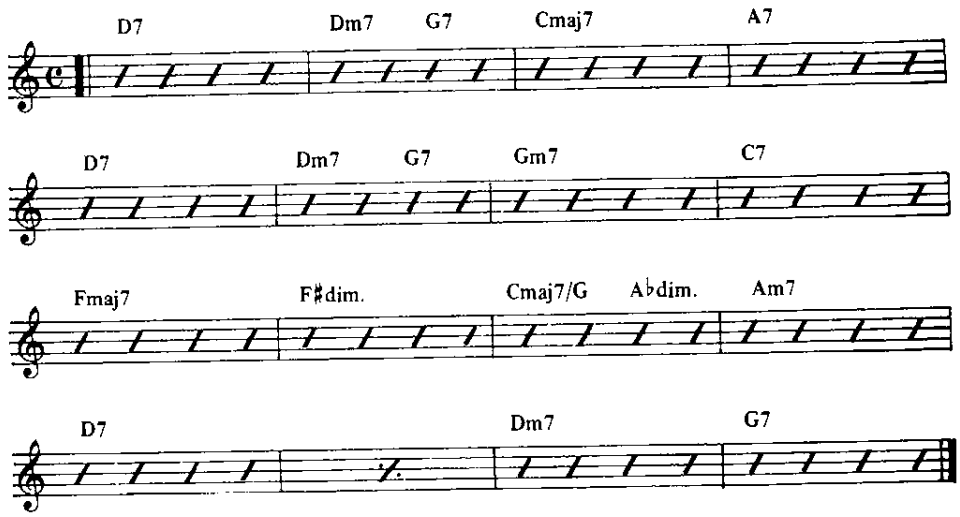
Categories of Standard Tune

Standard tunes often comprise similar harmonic patterns and although I do not propose to reproduce specific tunes in this seciton, it is useful to examine some eight-bar sections which I have categorised according to type. Each example is written in the key of C major but should be transposed to other keys. In addition to this study the student would be well advised to obtain a copy of the so-called 'fake' books which are now on the market and which contain many standard tunes with correct chord sequences.

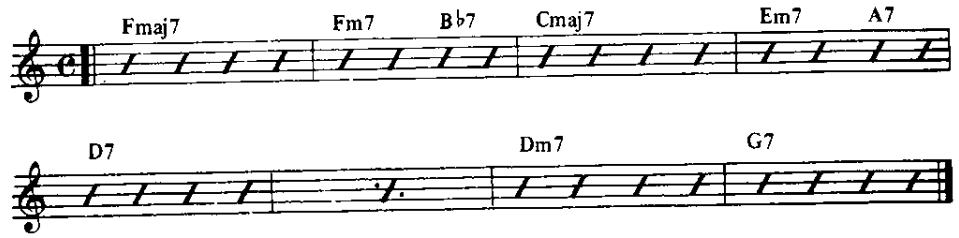
1. Typical 'A' sections of tunes commencing with a I chord



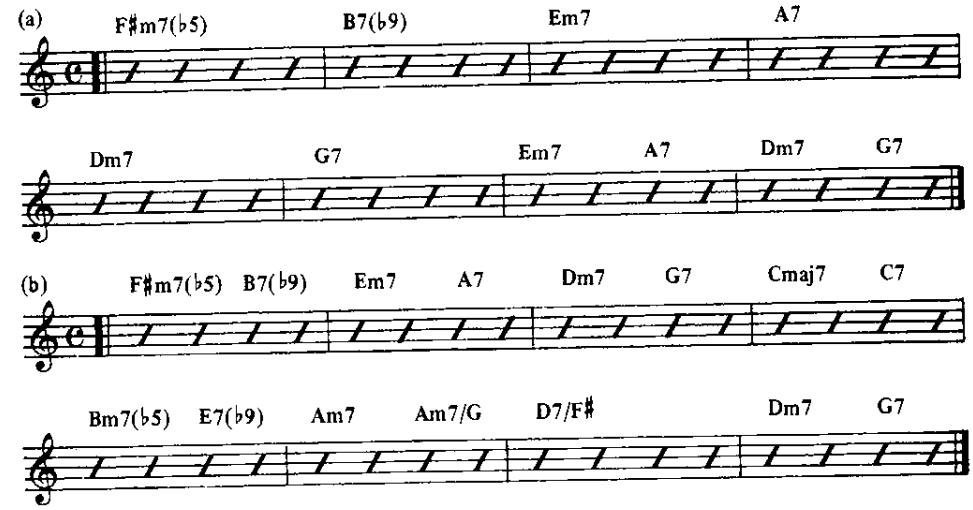
2. Typical 'A' section of tune commencing with a II7 chord



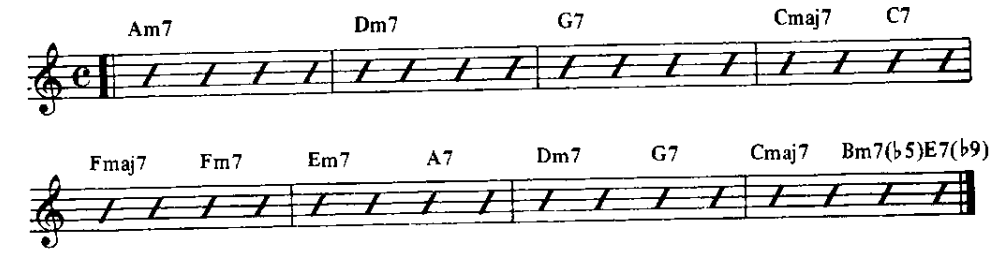
3. Typical 'A' section of tune commencing with a IV maj 7 chord



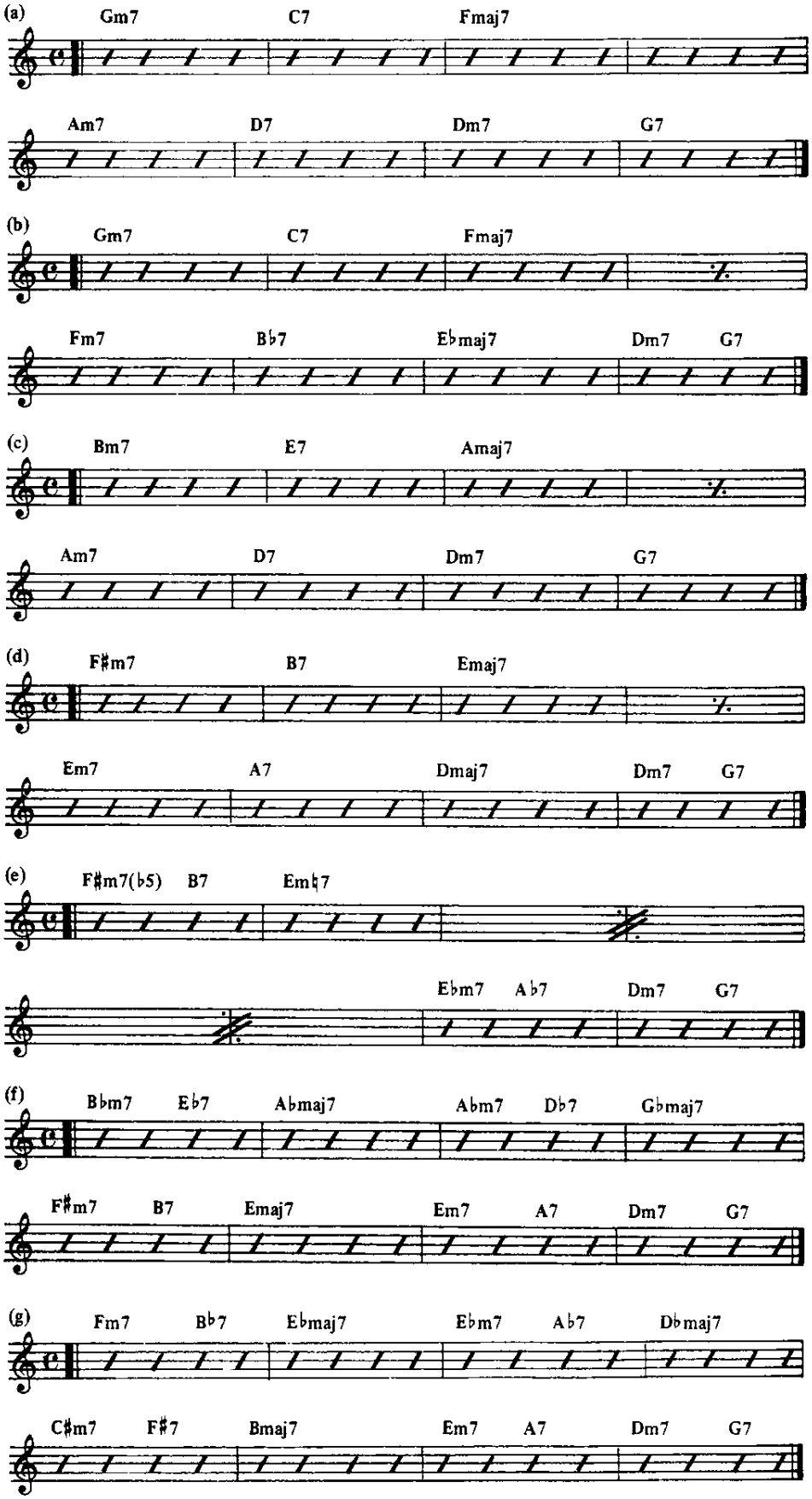
4.Typical 'A' sections of tunes commencing with a ♭Vm7(♭5) chord

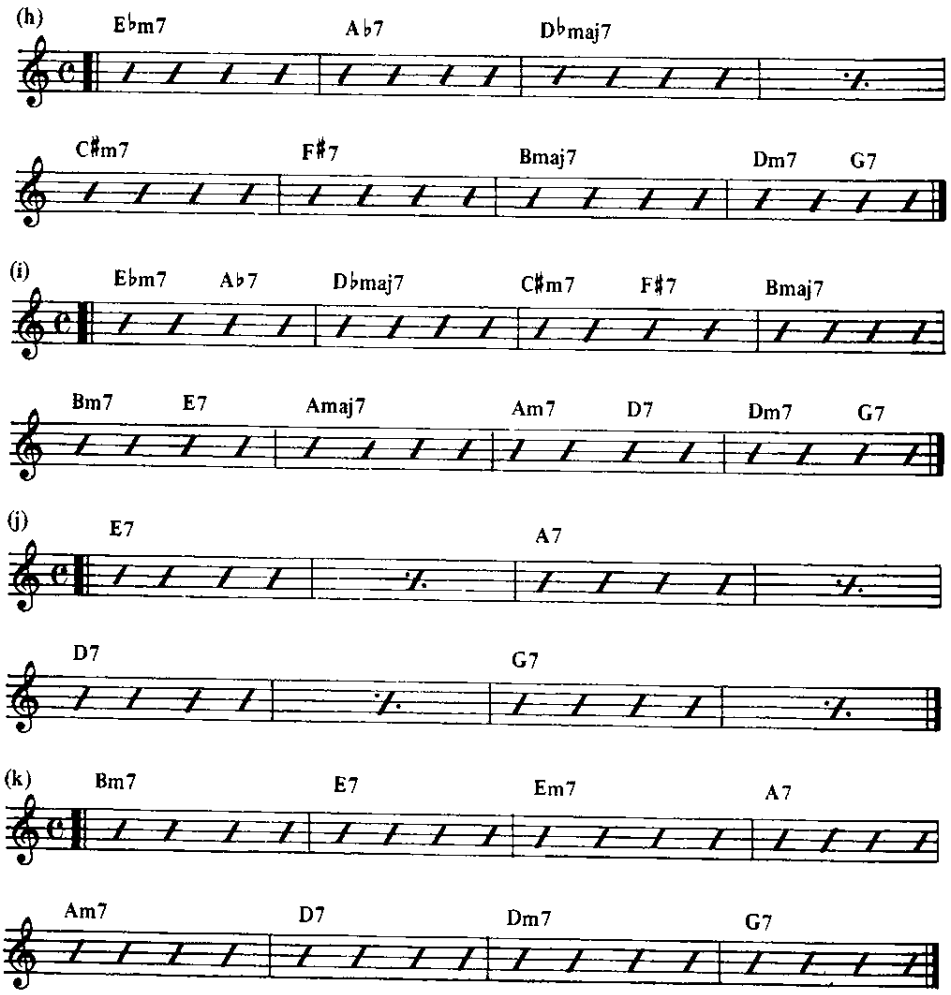


5. Typical 'A' section of tunes commencing with a VI chord



6. Typical 'B' sections for tunes in the key of C (bridges or middle eights)





9.2 THE SONG COPY

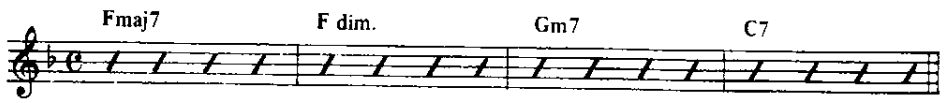
Song copies are a useful source of standard material for the jazz pianist. Unfortunately they often contain sequences which are substandard and misleading. The reason for this is largely historical and stems from the Tin Pan Alley tradition of writing chords in simplified form for banjo players. Sequences will often be banal and frequently written without due regard to the proper roots of the chords. It is useful, therefore, to be aware of the anomalies which can occur.

The jazz pianist can usually ignore the bass clef part of a song copy for he will be able to add his own more appropriate voicings below the melody line once a correct chord sequence has been established.

The following examples show some of the problems which can arise:

1. A chord is not identified by its correct root.

Example A



should be:

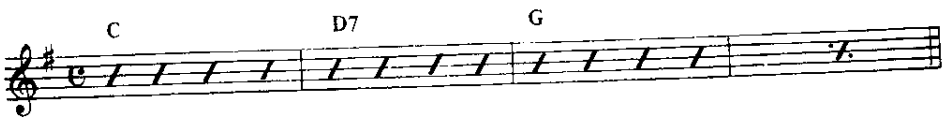
B

should be:

The use of a minor sixth chord to precede a dominant seventh is quite common in song copies. Note that in the example shown, Cm6 is the first inversion of Am7 (♭5) and B♭m6 is the first inversion of Gm7(♭5).

This error often arises where there should be a cycle of fifths progression. The m6 chords are being used out of context for they are not functioning as tonic minors.

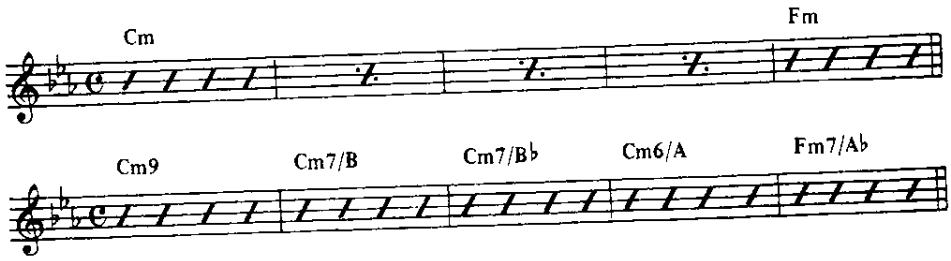
Example C



should be:

This is similar to *example B* for Cmaj6 is the first inversion of Amin7. Once again, the true progression in fifths has not been respected.

2. A prolonged chord over several bars can sometimes be improved by changing the bass note.



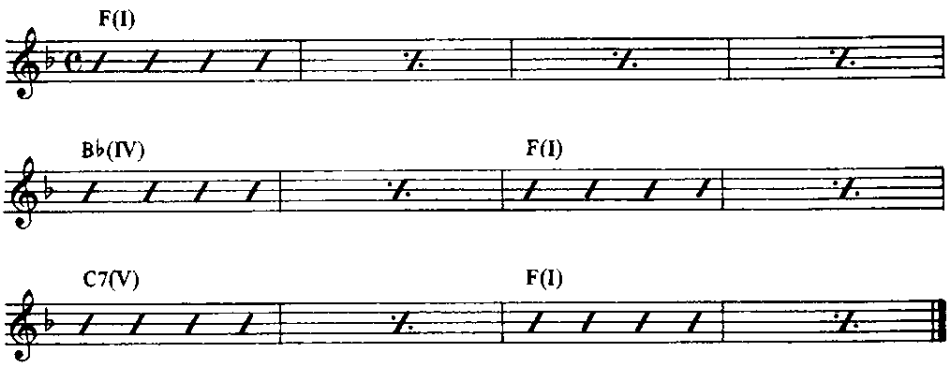
9.3 THE BLUES

Jazz, in all its various forms, has its origins in work songs, Negro spirituals and the blues. In all but the most avante garde forms of jazz, there is still evidence of the influence the blues has had on the music, although it is the structure of the blues rather than the blues spirit which has pervaded the modern jazz idiom.

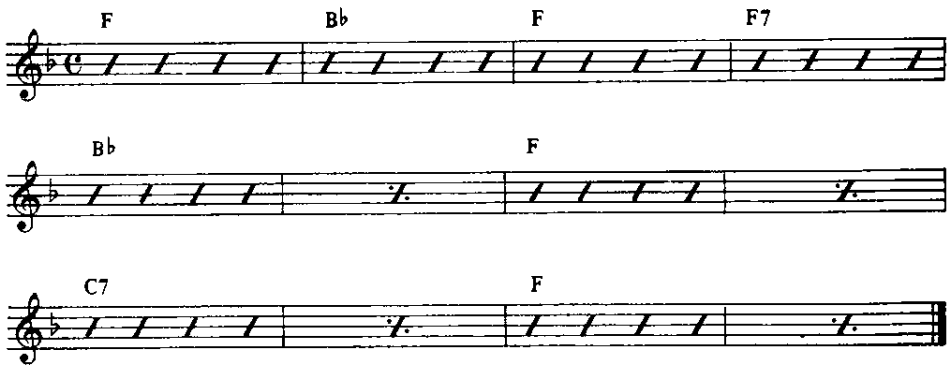
In the section on scales it was explained that the blues is characterised by a flattening of the third, fifth and seventh of the major scale whilst retaining the major third and perfect fifth. Another important character of the blues is its structure. A blues can be eight, twelve, sixteen, twenty or twenty-four bars long, although it is the twelve-bar structure which is the most common and the one which will be considered here.

Twelve-Bar Blues

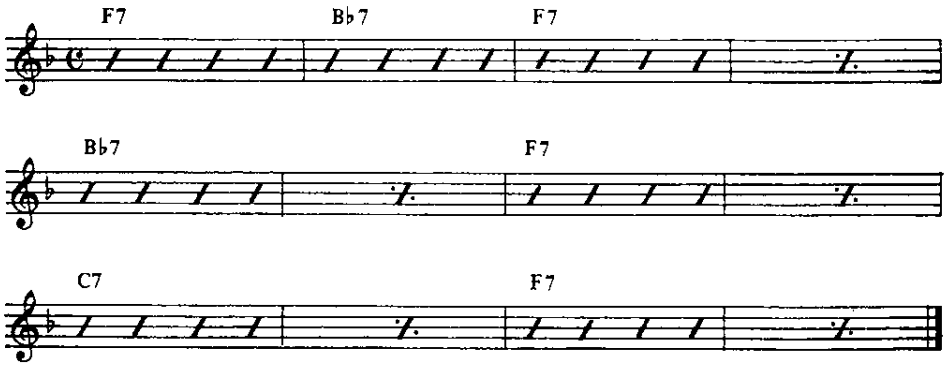
In its simplest form the twelve-bar blues contains only three chords and the harmonic structure is as follows:



In the fifth bar the movement to the subdominant can also be regarded as a modulation to another key a fourth from the tonic. This modulation can also occur temporarily in the second bar:



If the sequence is played with seventh chords, the sevenths would have to be flattened (minor sevenths) to retain the characteristic sound of the blues and the chords will be dominant sevenths posing as tonics.

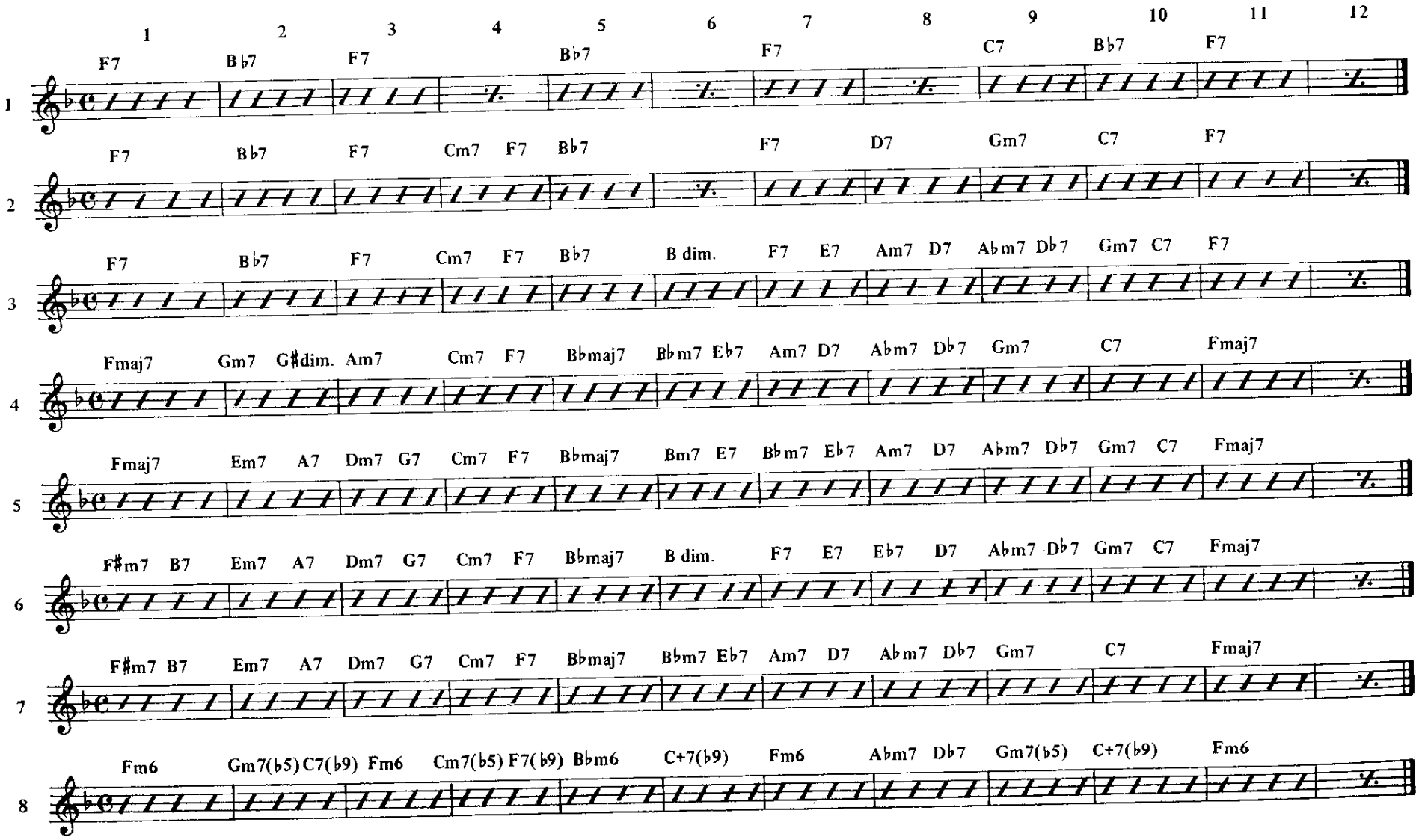


Starting with this sequence it is possible to modify the harmonies to make them more interesting and the harmonic devices already explained can be used to do this. The following table shows progressive alterations to the blues sequence including the conversion of the tonics to major sevenths whereby the blues becomes harmonically 'Europeanised', a device used extensively by Be-Bop players.

The final two bars of tonic chord can be replaced with a 'turnaround', which will be discussed in the next section.

Note that sequence No 8 is in the minor key.

Note that for sequence Nos. 1, 2 and 3, bar 2 could be F♯7 and for sequence Nos 2 to 7 Cm7-F7 could be replaced by F♯m7- B7


1 2 3 4 5 6 7 8 9 10 11 12
1 F7 B♭7 F7 B♭7 F7 C7 B♭7 F7
2 F7 B♭7 F7 Cm7 F7 B♭7 F7 D7 Gm7 C7 F7
3 F7 B♭7 F7 Cm7 F7 B♭7 B dim. F7 E7 Am7 D7 A♭m7 D♭7 Gm7 C7 F7
4 Fmaj7 Gm7 G♯dim. Am7 Cm7 F7 B♭maj7 B♭m7 E♭7 Am7 D7 A♭m7 D♭7 Gm7 C7 Fmaj7
5 Fmaj7 Em7 A7 Dm7 G7 Cm7 F7 B♭maj7 Bm7 E7 B♭m7 E♭7 Am7 D7 A♭m7 D♭7 Gm7 C7 Fmaj7
6 F♯m7 B7 Em7 A7 Dm7 G7 Cm7 F7 B♭maj7 B dim. F7 E7 E♭7 D7 A♭m7 D♭7 Gm7 C7 Fmaj7
7 F♯m7 B7 Em7 A7 Dm7 G7 Cm7 F7 B♭maj7 B♭m7 E♭7 Am7 D7 A♭m7 D♭7 Gm7 C7 Fmaj7
8 Fm6 Gm7(♭5) C7(♭9) Fm6 Cm7(♭5) F7(♭9) B♭m6 C+7(♭9) Fm6 A♭m7 D♭7 Gm7(♭5) C+7(♭9) Fm6

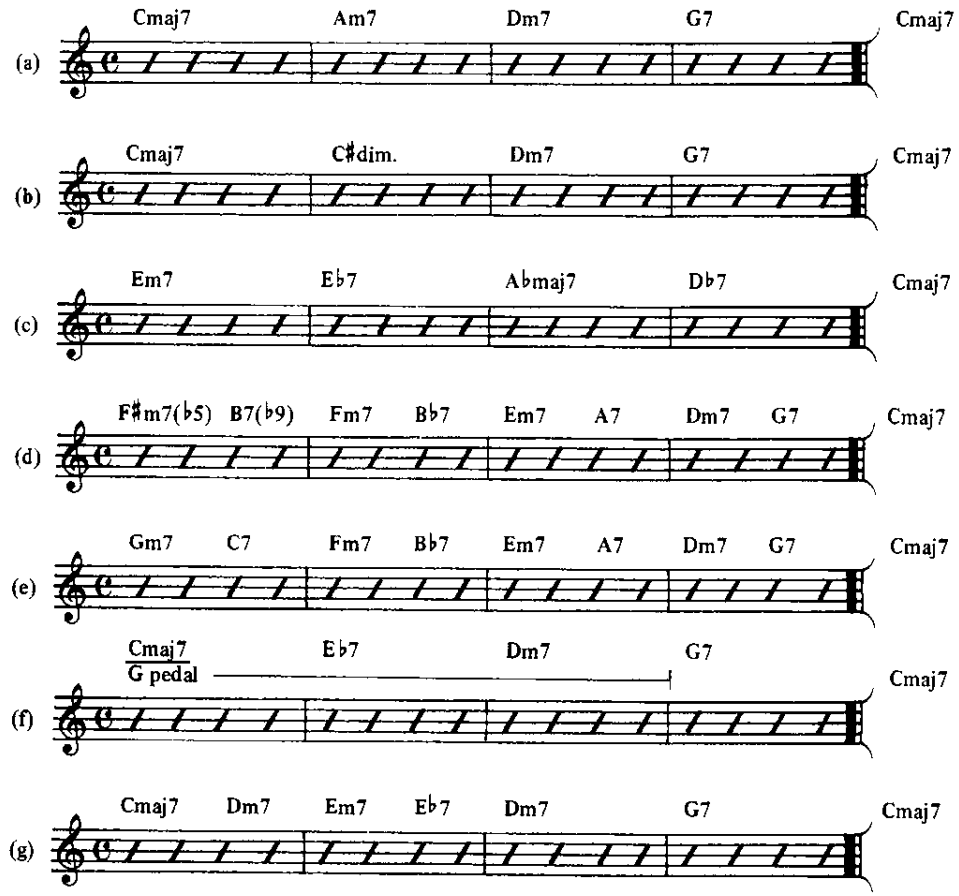
9.4 INTRODUCTIONS AND TURNAROUNDS

Introductions and turnarounds are harmonic patterns which lead into the initial chord of a tune and it is the nature of this chord which determines the type of harmonic pattern which will be suitable.

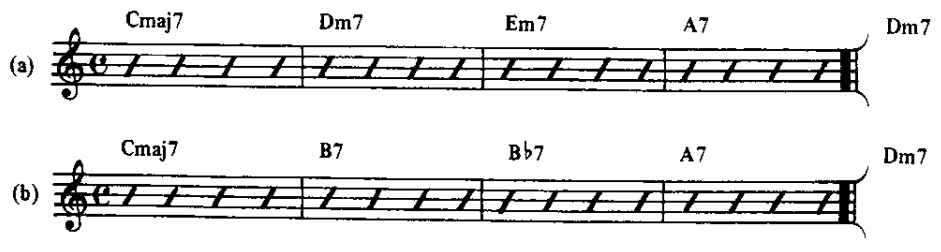
Introductions

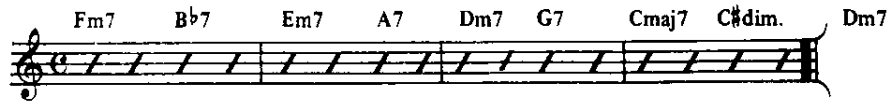
Introductions can vary in length depending on the player's wishes. For the sake of example, I have assumed an introduction of four bars and illustrated some of the possibilities according to the type of chord at the beginning of the tune. Examples are given in the key of C major and should be transposed to all other keys.

1. Tunes beginning with a I chord



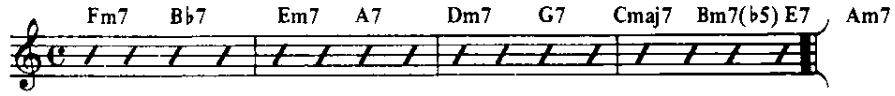
2. Tunes beginning with a II chord or II 7 chord



(c) 

3. Tunes beginning with a ♭V7(♭5) chord
(as for tunes beginning with a I chord)

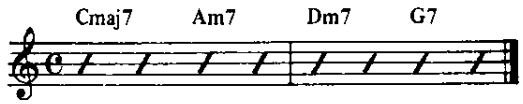
4. Tunes beginning with a VI chord

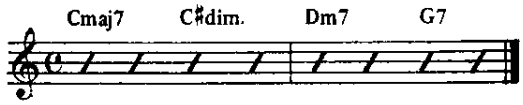


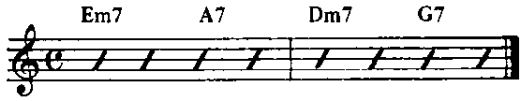
Turnarounds

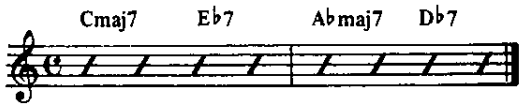
A turnaround serves as an harmonic bridge between choruses of a tune or between repeated sections. The chords used can be the same as those used for introductions but a turnaround will generally be only one or two bars in length. In the following examples the turnaround is intended to replace two bars of a tonic (I) chord at the end of each section or chorus.

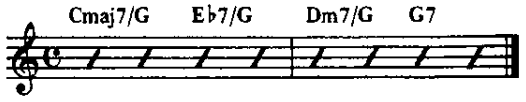
1. Tunes beginning with a I chord

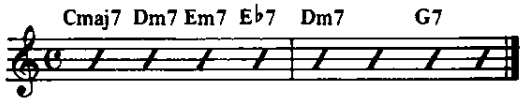
(a) 

(b) 

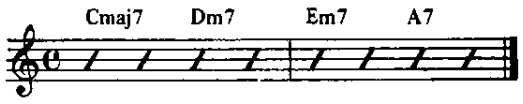
(c) 

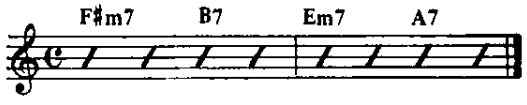
(d) 

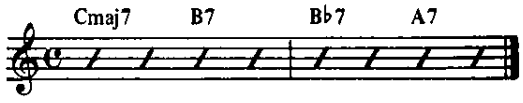
(e) 

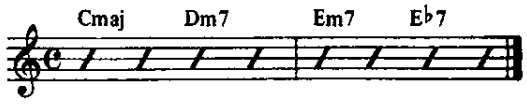
(f) 

2. Tunes beginning with a II chord or II7 chord

(a) 

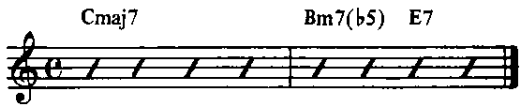
(b) 

(c) 

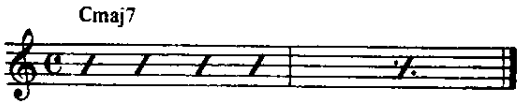
(d) 

3. Tunes beginning with a ♭Vm7(♭5) chord
(as for tunes beginning with a I chord)

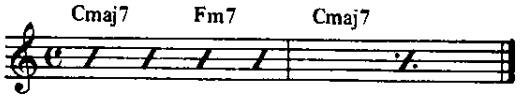
4. Tunes beginning with a VI chord.



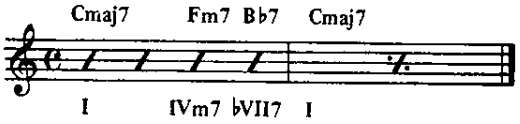
An additional type of turnaround is one which resolves within the two bars at the end of a section or at the end of a tune.



can be played:



or:



9.5 SOLO PIANO BASS LINES

It is useful for the jazz pianist to be able to play a walking bass line accompaniment in the left hand. Bass lines can be:

(a) chordal
(b) scalar
(c) chromatic
(d) any combination of (a), (b) and (c).

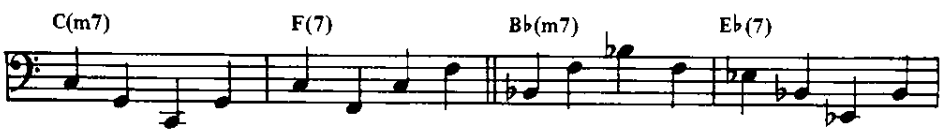
The first priority is to outline a harmonic progression or tonality by playing chord tones—roots, thirds, fifths, sevenths, on the first and third beats of the bar. The notes on the second and fourth beats can be:

(i) chord tones
(ii) non-chord tones derived from the related scale
(iii) non-chord chromatic tones.

Each of these possibilities is demonstrated in the following examples which are based on the harmonic progression II-V (minor seventh to dominant seventh). It is important to apply these principles to other chord sequences in all keys.

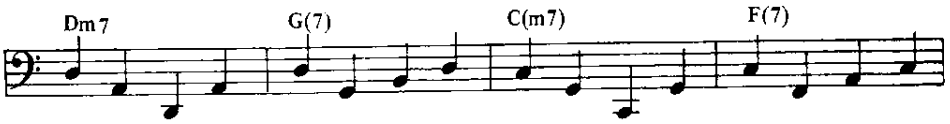
Example 1 **Using roots and fifths**

	II				V			
	R	5	R	5	5	R	5	R
or	R	5	R	5	R	5	R	5



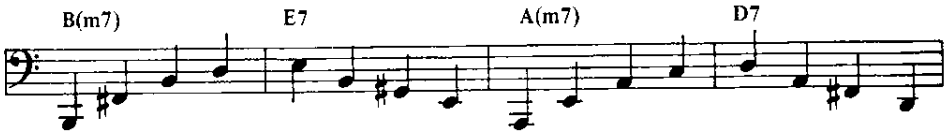
Example 2 **Introducing the 'third' in the V chord**

II V
R 5 R 5 5 R 3 5



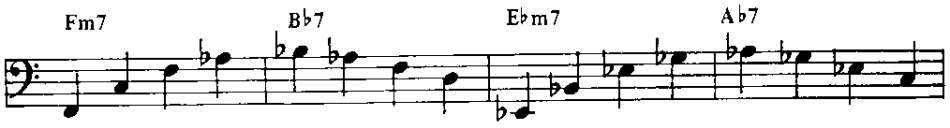
Example 3 **Introducing the 'third' in the II chord**

II V
R 5 R 3 R 5 3 R



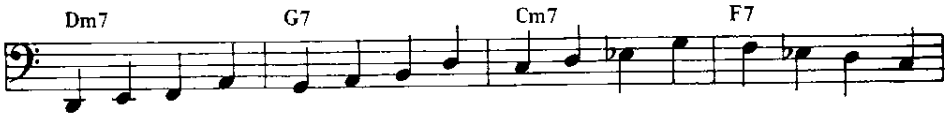
Example 4 **Introducing the 'seventh' in the V chord**

II V
R 5 R 3 R 7 5 3



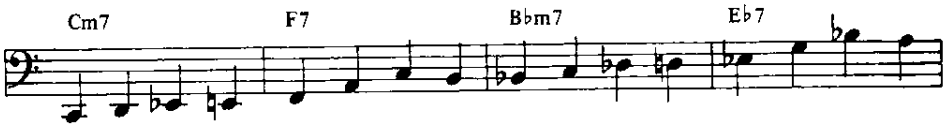
Example 5 **Introducing non-chord tones derived from the related scale**

II V
R 9 3 5 R 9 3 5
or R 9 3 5 R 7 13 5



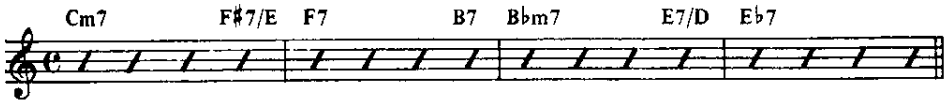
Example 6 **Introducing non-chord chromatic tones**

II V
R 9 ♭3 3 R 3 5 ♭5



Note that in *Example 6,* the E natural in the first bar is the 'seventh' of an F♯7 chord passing to F7, and likewise the B natural in the second bar is the root of a B7 chord passing to B♭m7. The same principles apply to bars three and four.

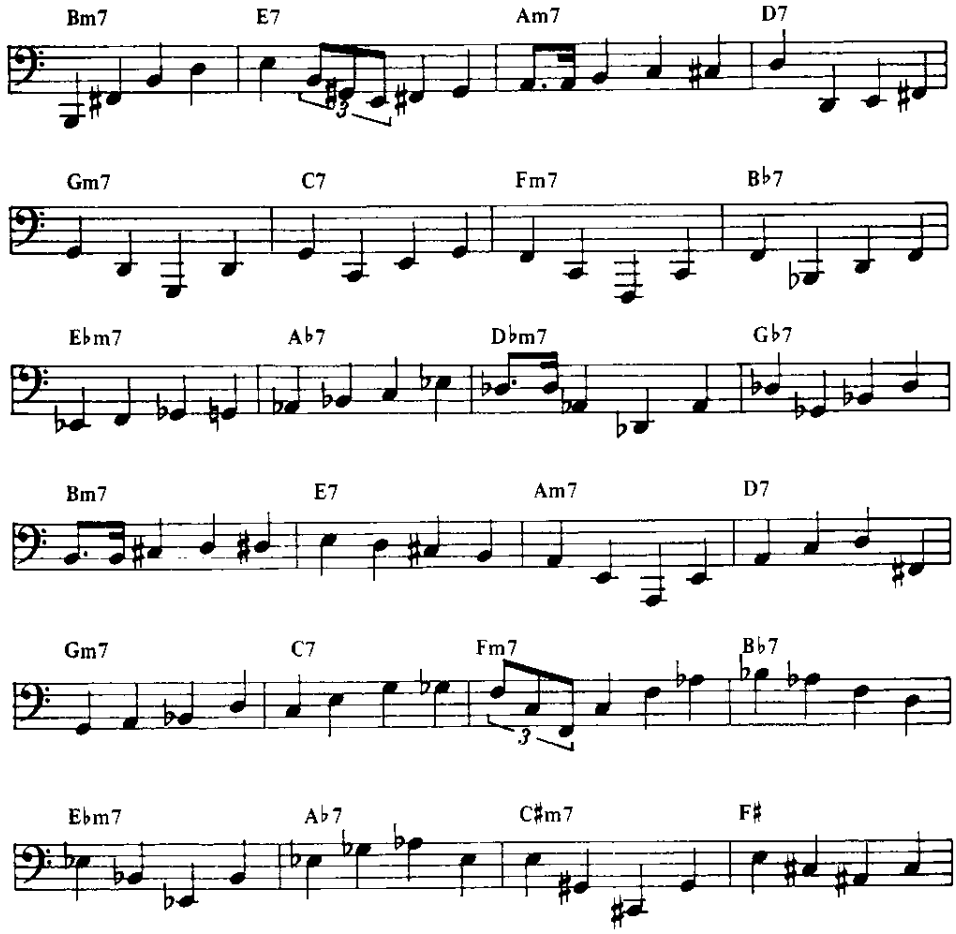
The bass line in this example is therefore implying the following chord sequence:



The different approaches outlined in the above examples can be used in various combinations. This will be found necessary to keep the lines within the bass register of the piano and it will help to overcome difficulties of fingering in some keys.

The rhythmic pattern of a walking line can also be altered to introduce more variety. In addition to the four-crotchet pattern used in the foregoing examples, bass players often use two additional rhythmic devices. These are: the dotted quaver and the quaver triplet.

In the next and final example of a bass line I have incorporated rhythmic variation with all the devices used in the previous examples and I have continued the line over a recurring II – V pattern in which the roots move in a cycle of fifths progression.



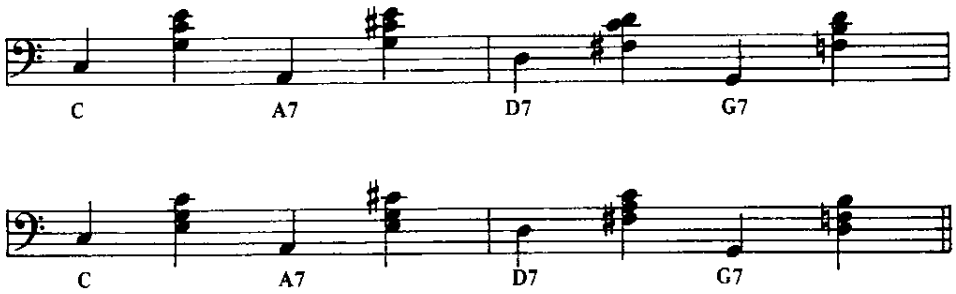
Bass lines should of necessity be practised until they become automatic. When this stage of fluency is reached they can be used to complement the right hand.

9.6 MODERN STRIDE

The term 'stride' refers to a piano style in which the left hand plays an accompaniment comprising alternate bass notes and chords.

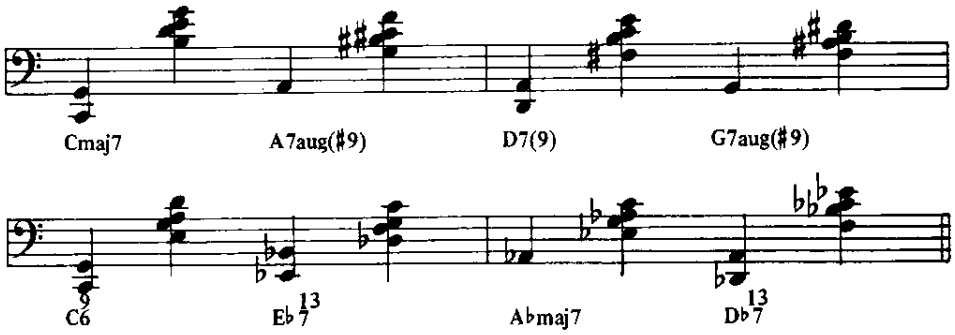
This style was prevalent in the late thirties at which time its exponents would play chord voicings comprising basic chord tones.

Example 1



The style can be adapted to the modern idiom using voicings and harmonic substitutions discussed in earlier sections and this is useful in solo piano work. The example shown above could then be re-worked as follows:

Example 2



The bass note can be played on either the strong or weak beat giving scope for variety.

In its simplest form the pattern would be:

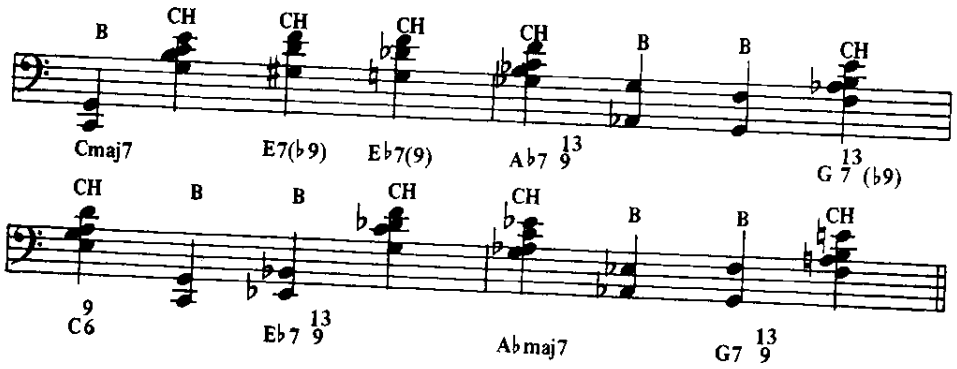
bass-chord	bass-chord	bass-chord	bass-chord
1 2	3 4	1 2	3 4

But it could be played as:

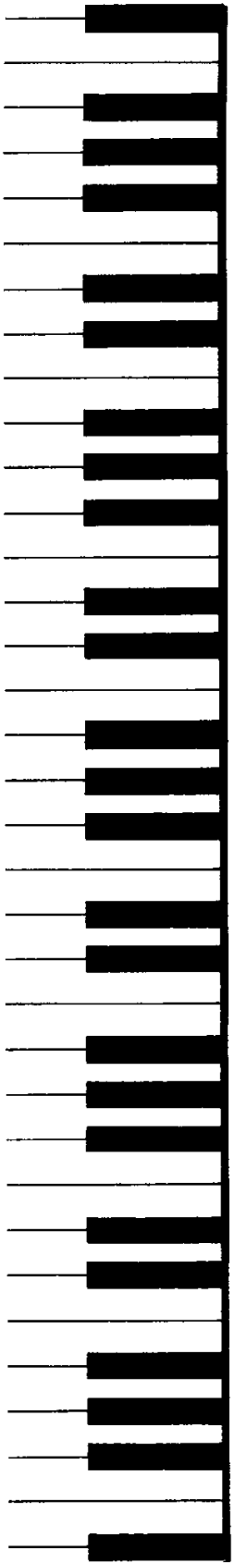
bass-chord	chord-bass	bass-chord	chord-bass
1 2	3 4	1 2	3 4

or any other combination.

Example 3



The technical difficulty associated with this style can be overcome by practising the left hand alone at the outset, adding the right hand later. Chord sequences in *Appendix A* could be used for this purpose and they should be practised slowly at first until accuracy is assured.



10. APPENDICES

APPENDIX A • CHORD STUDY PATTERNS

The following chord study patterns are useful for practising chord voicings. They will also serve as ear-training and chord sight-reading exercises.

The patterns are based on the cycle of fifths, chromatic sequences and other harmonic devices discussed in the preceding pages and are representative of chord charts which the jazz pianist will frequently encounter.

Each pattern should be played in as many ways as possible, exploring the different voicings which can be used and investigating the alterations which can be applied to each chord.

The patterns contained in the following pages are as follows:

1	[II]-[II]	Descending by fifths	
2	[V]-[V]	Descending by fifths	
3	[I]-[I]	Descending by fifths	
4a	[II-V-I]-[II-V-I]	Descending by tones	1st series
4b	[II-V-I]-[II-V-I]	Descending by tones	2nd series
5a	[IIm7♭5-V7♭9-Im]-	Descending by tones	1st series
5b	[IIm7♭5-V7♭9-Im]-	Descending by tones	2nd series
6a	[II-V]-[II-V]	Descending by tones	1st series
6b	[II-V]-[II-V]	Descending by tones	2nd series
7a	[II-♭II7]-[II-♭II7]	Descending by tones	1st series
7b	[II-♭II7]-[II-♭II7]	Descending by tones	2nd series
8	[II-V]-[II-V]	Descending by semitones	
9a	[II-V]-[II-V]	Ascending by tones	1st series
9b	[II-V]-[II-V]	Ascending by tones	2nd series
10a	[IIm7♭5-V7♭9]-	Descending by tones	1st series
10b	[IIm7♭5-V7♭9]-	Descending by tones	2nd series
11	[IIm7♭5-V7♭9]-	Descending by semitones	
12a	[IIm7♭5-V7♭9]-	Ascending by tones	1st series
12b	[IIm7♭5-V7♭9]-	Ascending by tones	2nd series
13	[I-♭III7-♭VImaj7-♭II7	Introduction/Turnaround	
14a	[I-IVm7/♭VII7-I]	Turnaround	1st series
14b	[I-IVm7/♭VII7-I]	Turnaround	2nd series
14c	[I-IVm7/♭VII7-I]	Turnaround	3rd series
15	[I-♯Idim-II-♯IIdim- I ——Vm7-I7] III bass	Descending by fifths	

1. [II]-[II] **descending by fifths**

: Cm7 / / /	Fm7 / / /	B♭m7 / / /	E♭m7 / / /
A♭m7 / / /	C♯m7 / / /	F♯m7 / / /	Bm7 / / /
Em7 / / /	Am7 / / /	Dm7 / / /	Gm7 / / / :

2. [V]-[V] **descending by fifths**

: C7 / / /	F7 / / /	B♭7 / / /	E♭7 / / /
A♭7 / / /	D♭7 / / /	G♭7 / / /	B7 / / /
E7 / / /	A7 / / /	D7 / / /	G7 / / / :

3. [I]-[I] **descending by fifths**

: Cmaj7 / / /	Fmaj7 / / /	B♭maj7 / / /	E♭maj7 / / /
A♭maj7 / / /	D♭maj7 / / /	G♭maj7 / / /	Bmaj7 / / /
Emaj7 / / /	Amaj7 / / /	Dmaj7 / / /	Gmaj7 / / / :

4(a). [II-V-I]-[II-V-I] **descending by tones**

: Dm7 / / /	G7 / / /	Cmaj7 / / /	𝄎.
Cm7 / / /	F7 / / /	B♭maj7 / / /	𝄎.
B♭m7 / / /	E♭7 / / /	A♭maj7 / / /	𝄎.
A♭m7 / / /	D♭7 / / /	G♭maj7 / / /	𝄎.
F♯m7 / / /	B7 / / /	Emaj7 / / /	𝄎.
Em7 / / /	A7 / / /	Dmaj7 / / /	𝄎. :

4(b).

: C♯m7 / / /	F♯7 / / /	Bmaj7 / / /	𝄎.
Bm7 / / /	E7 / / /	Amaj7 / / /	𝄎.
Am7 / / /	D7 / / /	Gmaj7 / / /	𝄎.
Gm7 / / /	C7 / / /	Fmaj7 / / /	𝄎.
Fm7 / / /	B♭7 / / /	E♭maj7 / / /	𝄎.
E♭m7 / / /	A♭7 / / /	D♭maj7 / / /	𝄎. :

5(a). [IIm7(♭5)-V7(♭9)-Im♮7] **descending by tones**

: Dm7(♭5) / / /	G7(♭9) / / /	Cm♮7 / / /	𝄎.
Cm7(♭5) / / /	F7(♭9) / / /	B♭m♮7 / / /	𝄎.
B♭m7(♭5) / / /	E♭7(♭9) / / /	A♭m♮7 / / /	𝄎.
A♭m7(♭5) / / /	D♭7(♭9) / / /	G♭m♮7 / / /	𝄎.
F♯m7(♭5) / / /	B7(♭9) / / /	Em♮7 / / /	𝄎.
Em7(♭5) / / /	A7(♭9) / / /	Dm♮7 / / /	𝄎. :

5(b).

: C♯m7(♭5) / / /	F♯7(♭9) / / /	Bm♮7 / / /	𝄎.
Bm7(♭5) / / /	E7(♭9) / / /	Am♮7 / / /	𝄎.
Am7(♭5) / / /	D7(♭9) / / /	Gm♮7 / / /	𝄎.
Gm7(♭5) / / /	C7(♭9) / / /	Fm♮7 / / /	𝄎.
Fm7(♭5) / / /	B♭7(♭9) / / /	E♭m♮7 / / /	𝄎.
E♭m7(♭5) / / /	A♭7(♭9) / / /	D♭m♮7 / / /	𝄎. :

6(a). [II-V]-[II-V] **descending by tones**

: Dm7 / G7 /	Cm7 / F7 /	B♭m7 / E♭7 /	A♭m7 / D♭7 /
F♯m7 / B7 /	Em7 / A7 / :		

6(b).

: C♯m7 / F♯7 /	Bm7 / E7 /	Am7 / D7 /	Gm7 / C7 /
Fm7 / B♭7 /	E♭m7 /A♭7/ :		

7(a). [II-♭II7]-[II-♭II7] **descending by tones**

: Dm7 / D♭7 /	Cm7 / B7 /	B♭m7 / A7 /	A♭m7 / G7 /
G♭m7 / F7 /	Em7 / E♭7 / :		

7(b).

: C♯m7 / C7 /	Bm7 / B♭7 /	Am7 / A♭7 /	Gm7 / G♭7 /
Fm7 / E7 /	E♭m7 / D7 / :		

8. [II-V]-[II-V] **descending by semitones**

: Dm7 / G7 /	C♯m7 / F♯7 /	Cm7 / F7 /	Bm7 / E7 /
B♭m7 / E♭7 /	Am7 / D7 /	A♭m7 / D♭7 /	Gm7 / C7 /
F♯m7 / B7 /	Fm7 / B♭7 /	Em7 / A7 /	E♭m7 / A♭7 / :

9(a). [II-V]-[II-V] **ascending by tones**

: Dm7 / G7 /	Em7 / A7 /	F♯m7 / B7 /	A♭m7 / D♭7 /
B♭m7 / E♭7 /	Cm7 / F7 / :		

9(b).

: C♯m7 / F♯7 /	E♭m7 / A♭7 /	Fm7 / B♭7 /	Gm7 / C7 /
Am7 / D7 /	Bm7 / E7 / :		

10(a). [IIm7(♭5)-V7(♭9)]-[IIm7(♭5)-V7(♭9)] **descending by tones**

: Dm7(♭5) / G7(♭9) /	Cm7(♭5) / F7(♭9) /	B♭m7(♭5) / E♭7(♭9) /	A♭m7(♭5) / D♭7(♭9) /
F♯m7(♭5) / B7(♭9) /	Em7(♭5) / A7(♭9) / :		

10(b).

: C♯m7(♭5) / F♯7(♭9) /	Bm7(♭9) / E7(♭9) /	Am7(♭5) / D7(♭9) /	Gm7(♭5) / C7(♭9) /
Fm7(♭5) / B♭7(♭9) /	E♭m7(♭5) / A♭7(♭9) / :		

[IIm7(♭5)-♭II7(♯11)]-[IIm7(♭5)-♭II7(♯11)] **descending by tones**

: Dm7(♭5) / D♭7(♯11) /	Cm7(♭5) / B7(♯11) /	B♭m7(♭5) / A7(♯11) /	A♭m7(♭5) / G7(♯11) /
F♯m7(♭5) / F7(♯11) /	Em7♭5 / E♭7(♯11) / :		
: C♯m7(♭5) / C7(♯11) /	Bm7(♭5) / B♭7(♯11) /	Am7(♭5) / A♭7(♯11) /	Gm7(♭5) / G♭7(♯11) /
Fm7(♭5) / E7(♯11) /	E♭m7(♭5) / D7(♯11) / :		

11. [IIm7(♭5)-V7(♭9)]-[IIm7(♭5)-V7(♭9)] descending by semitones

: Dm7(♭5)/G7(♭9)/	C♯m7(♭5) / F♯7(♭9) /	Cm7(♭5) / F7(♭9) /	Bm7(♭5) / E7(♭9) /
B♭m7(♭5) / E♭7(♭9) /	Am7(♭5) / D7(♭9) /	A♭m7(♭5) / D♭7(♭9) /	Gm7(♭5) / C7(♭9) /
F♯m7(♭5) / B7(♭9) /	Fm7(♭5) / B♭7(♭9) /	Em7(♭5) / A7(♭9) /	E♭m7(♭5) / A♭7(♭9) :‖

12(a). [IIm7(♭5)-V7(♭9)]-[IIm7(♭5)-V7(♭9)] ascending by tones

: Dm7(♭5)/G7(♭9)/	Em7(♭5) / A7(♭9) /	F♯m7(♭5) / B7(♭9) /	A♭m7(♭9) / D♭7(♭9) /
B♭m7(♭5) / E♭7(♭9) /	Cm7(♭5) / F7(♭9) / :		

12(b).

: C♯m7(♭5) / F♯7(♭9) /	E♭m7(♭5) / A♭7(♭9) /	Fm7(♭5) / B♭7(♭9) /	Gm7(♭5) / C7(♭9) /
Am7(♭5) / D7(♭9) /	Bm7(♭5) / E7(♭9) / :		

13. [I-♭III7-♭IImaj7-♭II7] introduction/turnaround

: Cmaj7 / E♭7 /	A♭maj7/D♭7/ :	: G♭maj7 / A7 /	Dmaj7 / G7 / :
: Fmaj7 / A♭7 /	D♭maj7/G♭7/ :	: Bmaj7 / D7 /	Gmaj7 / C7 / :
: B♭maj7 / D♭7 /	G♭maj7 / B7 / :	: Emaj7 / G7 /	Cmaj7 / F7 / :
: E♭maj7 / G♭7 /	Bmaj7 / E7 / :	: Amaj7 / C7 /	Fmaj7 / B♭7 / :
: A♭maj7 / B7 /	Emaj7 / A7 / :	: Dmaj7 / F7 /	B♭maj7 / E♭7 / :
: D♭maj7 / E7 /	Amaj7 / D7 / :	: Gmaj7 / B♭7 /	E♭maj7 / A♭7 / :

14(a). [I-IVm7♭VII7-I] **turnaround**

: Cmaj7 / / /	Fm7 / B♭7 /	Cmaj7 / / /	Fm7 / B♭7 / :
: E♭maj7 / / /	A♭m7 / D♭7 /	E♭maj7 / / /	A♭m7 / D♭7 / :
: G♭maj7 / / /	Bm7 / E7 /	G♭maj7 / / /	Bm7 / E7 / :
: Amaj7 / / /	Dm7 / G7 /	Amaj7 / / /	Dm7 / G7 / :

14(b).

: D♭maj7 / / /	F♯m7 / B7 /	D♭maj7 / / /	F♯m7 / B7 / :
: Emaj7 / / /	Am7 / D7 /	Emaj7 / / /	Am7 / D7 / :
: Gmaj7 / / /	Cm7 / F7 /	Gmaj7 / / /	Cm7 / F7 / :
: B♭maj7 / / /	E♭m7 / A♭7 /	B♭maj7 / / /	E♭m7 / A♭7 / :

14(c).

: Dmaj7 / / /	Gm7 / C7 /	Dmaj7 / / /	Gm7 / C7 / :
: Fmaj7 / / /	B♭m7 / E♭7 /	Fmaj7 / / /	B♭m7 / E♭7 / :
: A♭maj7 / / /	C♯m7 / F♯7 /	A♭maj7 / / /	C♯m7 / F♯7 / :
: Bmaj7 / / /	Em7 / A7 /	Bmaj7 / / /	Em7 / A7 / :

15. [I-♯Idim-II-♯IIdim-I/IIIbass-Vm7-I7] descending by fifths

Cmaj7 / C♯dim /	Dm7 / D♯dim /	Cmaj7/E / / /	Gm7 / C7 /
Fmaj7 / F♯dim /	Gm7 / G♯dim /	Fmaj7/A / / /	Cm7 / F7 /
B♭maj7 / Bdim /	Cm7 / C♯dim /	B♭maj7/D / / /	Fm7 / B♭7 /
E♭maj7 / Edim /	Fm7 / F♯dim /	E♭maj7/G / / /	B♭m7 / E♭7 /
A♭maj7 / Adim /	B♭m7 / Bdim /	A♭maj7/C / / /	E♭m7 / A♭7 /
D♭maj7 / Ddim /	E♭m7 / Edim /	D♭maj7/F / / /	A♭m7 / D♭7 /
G♭maj7 / Gdim /	A♭m7 / Adim /	G♭maj7/B♭ / / /	C♯m7 / F♯7 /
Bmaj7 / Cdim /	C♯m7 / Ddim /	Bmaj7/D♯ / / /	F♯m7 / B7 /
Emaj7 / Fdim /	F♯m7 / Gdim /	Emaj7/G♯ / / /	Bm7 / E7 /
Amaj7 / A♯dim /	Bm7 / Cdim /	Amaj7/C♯ / / /	Em7 / A7 /
Dmaj7 / D♯dim /	Em7 / Fdim /	Dmaj7/F♯ / / /	Am7 / D7 /
Gmaj7 / G♯dim /	Am7 / A♯dim /	Gmaj7/B / / /	Dm7 / G7 /

APPENDIX B

COMPENDIUM OF SCALES

1 Major Scale
2 Harmonic Minor Scale
3 Ascending Melodic Minor
4 Descending Melodic Minor
5 Whole-Tone Scale
6 Chromatic Scale (ascending)
7 Diminished Scale
8 Auxiliary (Inverted) Diminished Scale
9 Altered Scale
10 Auxiliary (Inverted) Altered Scale
11 Ionian Mode
12 Dorian Mode
13 Phrygian Mode
14 Lydian Mode
15 Augmented Lydian Mode
16 Mixolydian Mode
17 Mixolydian (Flat 9) Mode
18 Aeolian Mode
19 Locrian Mode
20 Spanish Phrygian Mode
21 Hungarian Mode
22 Hungarian Folk (Gypsy) Mode
23 Spanish Folk Mode
24 Exotic Mode 1
25 Exotic Mode 2
26 Pentatonic Scale
27 Blues Scale

1 MAJOR SCALE

C	C	D	E	F	G	A	B	C
F	F	G	A	B♭	C	D	E	F
B♭	B♭	C	D	E♭	F	G	A	B♭
E♭	E♭	F	G	A♭	B♭	C	D	E♭
A♭	A♭	B♭	C	D♭	E♭	F	G	A♭
D♭	D♭	E♭	F	G♭	A♭	B♭	C	D♭
G♭	G♭	A♭	B♭	C♭	D♭	E♭	F	G♭
B	B	C♯	D♯	E	F♯	G♯	A♯	B
E	E	F♯	G♯	A	B	C♯	D♯	E
A	A	B	C♯	D	E	F♯	G♯	A
D	D	E	F♯	G	A	B	C♯	D
G	G	A	B	C	D	E	F♯	G

2 HARMONIC MINOR SCALE

C	C	D	E♭	F	G	A♭	B	C
F	F	G	A♭	B♭	C	D♭	E	F
B♭	B♭	C	D♭	E♭	F	G♭	A	B♭
E♭	E♭	F	G♭	A♭	B♭	C♭	D	E♭
A♭	A♭	B♭	C♭	D♭	E♭	F♭	G	A♭
D♭	D♭	E♭	F♭	G♭	A♭	B♭♭	C	D♭
G♭	G♭	A♭	B♭♭	C♭	D♭	E♭♭	F	G♭
B	B	C♯	D	E	F♯	G	A♯	B
E	E	F♯	G	A	B	C	D♯	E
A	A	B	C	D	E	F	G♯	A
D	D	E	F	G	A	B♭	C♯	D
G	G	A	B♭	C	D	E♭	F♯	G

3 ASCENDING MELODIC MINOR

C	C	D	E♭	F	G	A	B	C
F	F	G	A♭	B♭	C	D	E	F
B♭	B♭	C	D♭	E♭	F	G	A	B♭
E♭	E♭	F	G♭	A♭	B♭	C	D	E♭
A♭	A♭	B♭	C♭	D♭	E♭	F	G	A♭
D♭	D♭	E♭	F♭	G♭	A♭	B♭	C	D♭
F♯	F♯	G♯	A	B	C♯	D♯	E♯	F♯
B	B	C♯	D	E	F♯	G♯	A♯	B
E	E	F♯	G	A	B	C♯	D♯	E
A	A	B	C	D	E	F♯	G♯	A
D	D	E	F	G	A	B	C♯	D
G	G	A	B♭	C	D	E	F♯	G

4 DESCENDING MELODIC MINOR

C	C	D	E♭	F	G	A♭	B♭	C
F	F	G	A♭	B♭	C	D♭	E♭	F
B♭	B♭	C	D♭	E♭	F	G♭	A♭	B♭
E♭	E♭	F	G♭	A♭	B♭	C♭	D♭	E♭
A♭	A♭	B♭	C♭	D♭	E♭	F♭	G♭	A♭
D♭	D♭	E♭	F♭	G♭	A♭	B♭♭	C♭	D♭
F♯	F♯	G♯	A	B	C♯	D	E	F♯
B	B	C♯	D	E	F♯	G	A	B
E	E	F♯	G	A	B	C	D	E
A	A	B	C	D	E	F	G	A
D	D	E	F	G	A	B♭	C	D
G	G	A	B♭	C	D	E♭	F	G

5 WHOLE TONE SCALE

C	C	D	E	F♯	G♯	A♯	C	/
F	F	G	A	B	C♯	D♯	F	/
B♭	B♭	C	D	E	F♯	G♯	A♯	/
E♭	E♭	F	G	A	B	C♯	D♯	/
A♭	A♭	B♭	C	D	E	F♯	G♯	/
D♭	D♭	E♭	F	G	A	B	C♯	/
G♭	G♭	A♭	B♭	C	D	E	F♯	/
B	B	C♯	D♯	F	G	A	B	/
E	E	F♯	G♯	A♯	B𝄪	C𝄪	D𝄪	/
A	A	B	C♯	D♯	E♯	F𝄪	G𝄪	/
D	D	E	F♯	G♯	A♯	B♯	C𝄪	/
G	G	A	B	C♯	D♯	E♯	F𝄪	/

𝄪 DOUBLE SHARP

6 CHROMATIC SCALE (ASCENDING)

C	C	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯	B	C
F	F	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯	E	F
A♯	A♯	B	C	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯
D♯	D♯	E	F	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯
G♯	G♯	A	A♯	B	C	C♯	D	D♯	E	F	F	G	G♯
C♯	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯	B	C	C♯
F♯	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯	E	F	F♯
B	B	C	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯	B
E	E	F	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯	E
A	A	A♯	B	C	C♯	D	D♯	E	F	F♯	G	G♯	A
D	D	D♯	E	F	F♯	G	G♯	A	A♯	B	C	C♯	D
G	G	G♯	A	A♯	B	C	C♯	D	D♯	E	F	F♯	G

NOTE THAT THE ASCENDING SCALE IS WRITTEN WITH SHARPS
THE DESCENDING CHROMATIC SCALE IS WRITTEN WITH
FLATS BUT IS ENHARMONICALLY THE SAME AS THE
ASCENDING SCALE

7 DIMINISHED SCALE

C	C	D	E♭	F	G♭	G♯	A	B	C
F	F	G	A♭	B♭	B	C♯	D	E	F
B♭	B♭	C	D♭	E♭	E	F♯	G	A	B♭
E♭	E♭	F	G♭	A♭	A	B	C	D	E♭
A♭	A♭	B♭	C♭	D♭	D	E	F	G	A♭
D♭	D♭	E♭	F♭	G♭	G	A	B♭	C	D♭
F♯	F♯	G♯	A	B	C	D	E♭	F	F♯
B	B	C♯	D	E	F	G	A♭	B♭	B
E	E	F♯	G	A	B♭	C	D♭	E♭	E
A	A	B	C	D	E♭	F	F♯	G♯	A
D	D	E	F	G	A♭	B♭	B	C♯	D
G	G	A	B♭	C	C♯	D♯	E	F♯	G

8 AUXILIARY (INVERTED) DIMINISHED SCALE

C	C	D♭	E♭	E	F♯	G	A	B♭	C
F	F	G♭	A♭	A	B	C	D	E♭	F
B♭	B♭	C♭	D♭	D	E	F	G	A♭	B♭
E♭	E♭	F♭	G♭	G	A	B♭	C	D♭	E♭
A♭	A♭	A	B	C	D	E♭	F	G♭	A♭
D♭	D♭	D	E	F	G	A♭	B♭	B	D♭
G♭	G♭	G	A	B♭	C	D♭	E♭	E	G♭
B	B	C	D	E♭	F	F♯	G♯	A	B
E	E	F	G	A♭	B♭	B	C♯	D	E
A	A	B♭	C	C♯	D♯	E	F♯	G	A
D	D	E♭	F	G	G♯	A	B	C	D
G	G	A♭	B♭	B	C♯	D	E	F	G

9 ALTERED SCALE

C	C	D♭	D♯	E	F♯	A♭	B♭	C
F	F	G♭	G♯	A	B	D♭	E♭	F
B♭	B♭	C♭	C♯	D	E	G♭	A♭	B♭
E♭	E♭	F♭	F	G	A	C♭	D♭	E♭
A♭	A♭	B♭♭	B	C	D	E	F♯	A♭
D♭	D♭	E♭♭	E	F	G	A	B	D♭
G♭	G♭	A♭♭	A	B♭	C	D	E	G♭
B	B	C	C𝄪	D♯	F	G	A	B
E	E	F	F𝄪	G♯	A♯	C	D	E
A	A	B♭	B♯	C♯	D♯	F	G	A
D	D	E♭	E♯	F♯	G♯	A♯	C	D
G	G	A♭	A♯	B	C♯	D♯	E♯	G

10 AUXILIARY (INVERTED) ALTERED SCALE

C	C	D	E	F♯	G	A	B♭	C
F	F	G	A	B	C	D	E♭	F
B♭	B♭	C	D	E	F	G	A♭	B♭
E♭	E♭	F	G	A	B♭	C	D♭	E♭
A♭	A♭	B♭	C	D	E♭	F	G♭	A♭
D♭	D♭	E♭	F	G	A♭	B♭	C♭	D♭
G♭	G♭	A♭	B♭	C	D♭	E♭	F♭	G♭
B	B	C♯	D♯	E♯	F♯	G♯	A	B
E	E	F♯	G♯	A♯	B	C♯	D	E
A	A	B	C♯	D♯	E	F♯	G	A
D	D	E	F♯	G♯	A	B	C	D
G	G	A	B	C♯	D	E	F	G

THIS SCALE IS ALSO DESCRIBED AS LYDIAN/MIXOLYDIAN

SECTION 10

11 IONIAN MODE

C
F
B♭
E♭
A♭
D♭
G♭
B
E
A
D
G

C	D	E	F	G	A	B	C
F	G	A	B♭	C	D	E	F
B♭	C	D	E♭	F	G	A	B♭
E♭	F	G	A♭	B♭	C	D	E♭
A♭	B♭	C	D♭	E♭	F	G	A♭
D♭	E♭	F	G♭	A♭	B♭	C	D♭
G♭	A♭	B♭	C♭	D♭	E♭	F	G♭
B	C♯	D♯	E	F♯	G♯	A♯	B
E	F♯	G♯	A	B	C♯	D♯	E
A	B	C♯	D	E	F♯	G♯	A
D	E	F♯	G	A	B	C♯	D
G	A	B	C	D	E	F♯	G

12 DORIAN MODE

C
F
B♭
E♭
A♭
D♭
G♭
B
E
A
D
G

C	D	E♭	F	G	A	B♭	C
F	G	A♭	B♭	C	D	E♭	F
B♭	C	D♭	E♭	F	G	A♭	B♭
E♭	F	G♭	A♭	B♭	C	D♭	E♭
A♭	B♭	C♭	D♭	E♭	F	G♭	A♭
D♭	E♭	F♭	G♭	A♭	B♭	C♭	D♭
G♭	A♭	B♭♭	C♭	D♭	E♭	F♭	G♭
B	C♯	D	E	F♯	G♯	A	B
E	F♯	G	A	B	C♯	D	E
A	B	C	D	E	F♯	G	A
D	E	F	G	A	B	C	D
G	A	B♭	C	D	E	F	G

13 PHRYGIAN MODE

C
F
B♭
E♭
A♭
D♭
G♭
B
E
A
D
G

C	D♭	E♭	F	G	A♭	B♭	C
F	G♭	A♭	B♭	C	D♭	E♭	F
B♭	C♭	D♭	E♭	F	G♭	A♭	B♭
E♭	F♭	G♭	A♭	B♭	C♭	D♭	E♭
A♭	B♭♭	C♭	D♭	E♭	F♭	G♭	A♭
D♭	E♭♭	F♭	G♭	A♭	B♭♭	C♭	D♭
G♭	A♭♭	B♭♭	C♭	D♭	E♭♭	F♭	G♭
B	C	D	E	F♯	G	A	B
E	F	G	A	B	C	D	E
A	B♭	C	D	E	F	G	A
D	E♭	F	G	A	B♭	C	D
G	A♭	B♭	C	D	E♭	F	G

14 LYDIAN MODE

C
F
B♭
E♭
A♭
D♭
F♯
B
E
A
D
G

C	D	E	F♯	G	A	B	C
F	G	A	B	C	D	E	F
B♭	C	D	E	F	G	A	B
E♭	F	G	A	B♭	C	D	E♭
A♭	B♭	C	D	E♭	F	G	A♭
D♭	E♭	F	G	A♭	B♭	C	D♭
F♯	G♯	A♯	B♯	C♯	D♯	E♯	F♯
B	C♯	D♯	E♯	F♯	G♯	A♯	B
E	F♯	G♯	A♯	B	C♯	D♯	E
A	B	C♯	D♯	E	F♯	G♯	A
D	E	F♯	G♯	A	B	C♯	D
G	A	B	C♯	D	E	F♯	G

15 AUGMENTED LYDIAN MODE

C
F
B♭
E♭
A♭
D♭
F♯
B
E
A
D
G

C	D	E	F♯	G♯	A	B	C
F	G	A	B	C♯	D	E	F
B♭	C	D	E	F♯	G	A	B♭
E♭	F	G	A	B	C	D	E♭
A♭	B♭	C	D	E	F	G	A♭
D♭	E♭	F	G	A	B♭	C	D♭
F♯	G♯	A♯	B♯	D	D♯	E♯	F♯
B	C♯	D♯	E♯	F𝄪	G♯	A♯	B
E	F♯	G♯	A♯	B♯	C♯	D♯	E
A	B	C♯	D♯	E♯	F♯	G♯	A
D	E	F♯	G♯	A♯	B	C♯	D
G	A	B	C♯	D♯	E	F♯	G

16 MIXOLYDIAN MODE

C
F
B♭
E♭
A♭
D♭
G♭
B
E
A
D
G

C	D	E	F	G	A	B♭	C
F	G	A	B♭	C	D	E♭	F
B♭	C	D	E♭	F	G	A♭	B♭
E♭	F	G	A♭	B♭	C	D♭	E♭
A♭	B♭	C	D♭	E♭	F	G♭	A♭
D♭	E♭	F	G♭	A♭	B♭	C♭	D♭
G♭	A♭	B♭	C♭	D♭	E♭	F♭	G♭
B	C♯	D♯	E	F♯	G♯	A	B
E	F♯	G♯	A	B	C♯	D	E
A	B	C♯	D	E	F♯	G	A
D	E	F♯	G	A	B	C	D
G	A	B	C	D	E	F	G

17 MIXOLYDIAN (FLAT 9) MODE

C	C	D	E	F	G	A	B♭	C
F	F	G	A	B♭	C	D	E♭	F
B♭	B♭	C♭	D	E♭	F	G	A♭	B♭
E♭	E♭	F♭	G	A♭	B♭	C	D♭	E♭
A♭	A♭	B♭♭	C	D♭	E♭	F	G♭	A♭
D♭	D♭	E♭♭	F	G♭	A♭	B♭	C♭	D♭
G♭	G♭	A♭♭	B♭	C♭	D♭	E♭	F♭	G♭
B	B	C	D♯	E	F♯	G♯	A	B
E	E	F	G♯	A	B	C♯	D	E
A	A	B♭	C♯	D	E	F♯	G	A
D	D	E♭	F♯	G	A	B	C	D
G	G	A♭	B	C	D	E	F	G

18 AEOLIAN MODE

C	C	D	E♭	F	G	A♭	B♭	C
F	F	G	A♭	B♭	C	D♭	E♭	F
B♭	B♭	C	D♭	E♭	F	G♭	A♭	B♭
E♭	E♭	F	G♭	A♭	B♭	C♭	D♭	E♭
A♭	A♭	B♭	C♭	D♭	E♭	F♭	G♭	A♭
D♭	D♭	E♭	F♭	G♭	A♭	B♭♭	C♭	D♭
G♭	G♭	A♭	B♭♭	C♭	D♭	E♭♭	F♭	G♭
B	B	C♯	D	E	F♯	G	A	B
E	E	F♯	G	A	B	C	D	E
A	A	B	C	D	E	F	G	A
D	D	E	F	G	A	B♭	C	D
G	G	A	B♭	C	D	E♭	F	G

19 LOCRIAN MODE

C	C	D♭	E♭	F	G♭	A♭	B♭	C
F	F	G♭	A♭	B♭	C♭	D♭	E♭	F
B	B♭	C♭	D♭	E♭	F♭	G♭	A♭	B♭
E	E♭	F♭	G♭	A♭	B♭♭	C♭	D♭	E♭
A	A♭	B♭♭	C♭	D♭	E♭♭	F♭	G♭	A♭
D	D♭	E♭♭	F♭	G♭	A♭♭	B♭♭	C♭	D♭
G	G♭	A♭♭	B♭♭	C♭	D♭♭	E♭♭	F♭	G♭
B	B	C	D	E	F	G	A	B
E	E	F	G	A	B♭	C	D	E
A	A	B♭	C	D	E♭	F	G	A
D	D	E♭	F	G	A♭	B♭	C	D
G	G	A♭	B♭	C	D♭	E♭	F	G

20 SPANISH PHRYGIAN MODE

C	C	D♭	E♭	E	F	G	A♭	B♭	C
F	F	G♭	A♭	A	B♭	C	D♭	E♭	F
B♭	B♭	C♭	D♭	D	E♭	F	G♭	A♭	B♭
E♭	E♭	F♭	G♭	G	A♭	B♭	C♭	D♭	E♭
A♭	A♭	A	B	C	D♭	E♭	F♭	G♭	A♭
D♭	D♭	D	E	F	G♭	A♭	B♭♭	C♭	D♭
G♭	G♭	G	A	B♭	C♭	D♭	E♭♭	F♭	G♭
B	B	C	D	E♭	F♭	G♭	G	A	B
E	E	F	G	A♭	A	B	C	D	E
A	A	B♭	C	D♭	D	E	F	G	A
D	D	E♭	F	G♭	G	A	B♭	C	D
G	G	A♭	B♭	B	C	D	E♭	F	G

21 HUNGARIAN MODE

C	C	D	E♭	F♯	G	A♭	B	C
F	F	G	A♭	B	C	D♭	E	F
B♭	B♭	C	D♭	E	F	G♭	A	B♭
E♭	E♭	F	G♭	A	B♭	C♭	D	E♭
A♭	A♭	B♭	C	D	E♭	F♭	G	A♭
D♭	D♭	E♭	F♭	G	A♭	B♭♭	C	D♭
G♭	G♭	A♭	B♭♭	C	D♭	E♭♭	F	G♭
B	B	C♯	D	E♯	F♯	G	A♯	B
E	E	F♯	G	A♯	B	C	D♯	E
A	A	B	C	D♯	E	F	G♯	A
D	D	E	F	G♯	A	B♭	C♯	D
G	G	A	B♭	C♯	D	E♭	F♯	G

22 HUNGARIAN FOLK (GYPSY) MODE

C	C	D♭	E	F	G	A♭	B	C
F	F	G♭	A	B♭	C	D♭	E	F
B♭	B♭	C♭	D	E♭	F	G♭	A	B♭
E♭	E♭	F♭	G	A♭	B♭	C♭	D	E♭
A♭	A♭	B♭♭	C	D♭	E♭	F♭	G	A♭
D♭	D♭	E♭♭	F	G♭	A♭	B♭♭	C	D♭
G♭	G♭	A♭♭	B♭	C♭	D♭	E♭♭	F	G♭
B	B	C	D♯	E	F♯	G	A♯	B
E	E	F	G♯	A	B	C	D♯	E
A	A	B♭	C♯	D	E	F	G♯	A
D	D	E♭	F♯	G	A	B♭	C♯	D
G	G	A♭	B	C	D	E♭	F♯	G

23 SPANISH FOLK MODE

C	C	D♭	E	F	G	A♭	B♭	C
F	F	G♭	A	B♭	C	D♭	E♭	F
B♭	B♭	C♭	D	E♭	F	G♭	A♭	B♭
E♭	E♭	F♭	G	A♭	B♭	C♭	D♭	E♭
A♭	A♭	B♭♭	C	D♭	E♭	F♭	G♭	A♭
D♭	D♭	E♭♭	F	G♭	A♭	B♭♭	C♭	D♭
G♭	G♭	A♭♭	B♭	C♭	D♭	E♭♭	F♭	G♭
B	B	C	D♯	E	F♯	G	A	B
E	E	F	G♯	A	B	C	D	E
A	A	B♭	C♯	D	E	F	G	A
D	D	E♭	F♯	G	A	B♭	C	D
G	G	A♭	B	C	D	E♭	F	G

24 EXOTIC MODE 1

C	C	D♭	E	F	F♯	G♯	A	B	C
F	F	G♭	A	B♭	B	C♯	D	E	F
B♭	B♭	C♭	D	E♭	E	F♯	G	A	B♭
E♭	E♭	F♭	G	A♭	A	B	C	D	E♭
A♭	A♭	B♭♭	C	D♭	D	E	F	G	A♭
D♭	D♭	E♭♭	F	G♭	G	A	B♭	C	D♭
G♭	G♭	A♭♭	B♭	C♭	C	D	E♭	F	G♭
B	B	C	E♭	F♭	F	G	A♭	B♭	B
E	E	F	G♯	A	B♭	C	D♭	E♭	E
A	A	B♭	C♯	D	E♭	F	G♭	A♭	A
D	D	E♭	F♯	G	A♭	B♭	C♭	D♭	D
G	G	A♭	B	C	D♭	E♭	F♭	G♭	G

25 EXOTIC MODE 2

C	C	D♭	E	F	G♭	A	B♭	C
F	F	G♭	A	B♭	C♭	D	E♭	F
B♭	B♭	C♭	D	E♭	F♭	G	A♭	B♭
E♭	E♭	F♭	G	A♭	B♭♭	C	D♭	E♭
A♭	A♭	B♭♭	C	D♭	E♭♭	F	G♭	A♭
D♭	D♭	E♭♭	F	G♭	A♭♭	B♭	C♭	D♭
G♭	G♭	A♭♭	B♭	C♭	D♭♭	E♭	F♭	G♭
B	B	C	D♯	E	F	G♯	A	B
E	E	F	G♯	A	B♭	C♯	D	E
A	A	B♭	C♯	D	E♭	F♯	G	A
D	D	E♭	F♯	G	A♭	B♮	C	D
G	G	A♭	B	C	D♭	E♮	F	G

26 PENTATONIC SCALE

C	C	D	E	G	A	C	/	/
F	F	G	A	C	D	F	/	/
B♭	B♭	C	D	F	G	B♭	/	/
E♭	E♭	F	G	B♭	C	E♭	/	/
A♭	A♭	B♭	C	E♭	F	A♭	/	/
D♭	D♭	E♭	F	A♭	B♭	D♭	/	/
G♭	G♭	A♭	B♭	D♭	E♭	G♭	/	/
B	B	C♯	D♯	F♯	G♯	B	/	/
E	E	F♯	G♯	B	C♯	E	/	/
A	A	B	C♯	E	F♯	A	/	/
D	D	E	F♯	A	B	D	/	/
G	G	A	B	D	E	G	/	/

27 BLUES SCALE

C	C	D	E♭	E	F	G♭	G	A	B♭
F	F	G	A♭	A	B♭	C♭	C	D	E♭
B♭	B♭	C	D♭	D	E♭	F♭	F	G	A♭
E♭	E♭	F	G♭	G	A♭	B♭♭	B♭	C	D♭
A♭	A♭	B♭	C♭	C	D♭	E♭♭	E♭	F	G♭
D♭	D♭	E♭	F♭	F	G♭	A♭♭	A♭	B♭	C♭
G♭	G♭	A♭	B♭♭	B♭	C♭	D♭♭	D♭	E♭	F♭
B	B	C♯	D	D♯	E	F	F♯	G♯	A
E	E	F♯	G	G♯	A	B♭	B	C♯	D
A	A	B	C	C♯	D	E♭	E	F♯	G
D	D	E	F	F♯	G	A♭	A	B	C
G	G	A	B♭	B	C	D♭	D	E	F

MODERN JAZZ PIANO

A STUDY IN HARMONY AND IMPROVISATION

BRIAN WAITE

This book is based on the author's experiences of teaching in Jazz workshops and has been produced to fill a gap in the Jazz education market by providing an explanation of the principles of this art form.

The appeal in the first instance is to the aspiring Jazz pianist seeking an explanation to the principles of the music and serves as an aid to developing potential.

Non-keyboard Jazz musicians will also benefit from this work, for it encourages them to play harmonies en-bloc at the keyboard as they would be played by the Jazz pianist. Thus the reader can gain an insight into the pianist's role in the rhythm section.

Finally, it is useful in the classroom as an educational reference for teachers wishing to include Jazz as part of the music curriculum, relating the music to conventional music training.

BRIAN WAITE first became interested in jazz at school where he met members of the Cambridge University Jazz fraternity who were prominent on the London jazz scene in the mid-sixties. After graduating in engineering he took up the piano at 22 studying with composer/arranger Peter Sander and attending the Barry Summer School.

In 1971 he moved to the Midlands where he has worked extensively with local bands including a period in the Tony Richards Trio playing with visiting musicians and recording for radio broadcasts. In 1982 pianist Gordon Beck invited him to return to the Summer School as jazz piano tutor under the auspices of the Glamorgan Education Authority. This book is based on that teaching and makes a contribution to a subject which is receiving more attention from educationalists.

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