Jazz Theory

Contents

Introduction

Although written for jazz piano, this course can be used and understood by any budding jazz musician

Classical vs Jazz

Many musicians first started learning Classical music and only later became interested in and transitioned over to Jazz. Unsurprisingly, playing Jazz music requires a completely different skill set to Classical.

Some of the differences between Classical and Jazz music are:

- Classical music is (generally) completely composed (with the exception of Bach); while Jazz music is largely improvised;
- Classical music generally uses a straight rhythm; while Jazz generally uses a swing rhythm;
- Classical music pieces often have long and highly structured forms (sonatas, etc.); while most Jazz songs have a 12 bar or 32 bar form that just repeats.

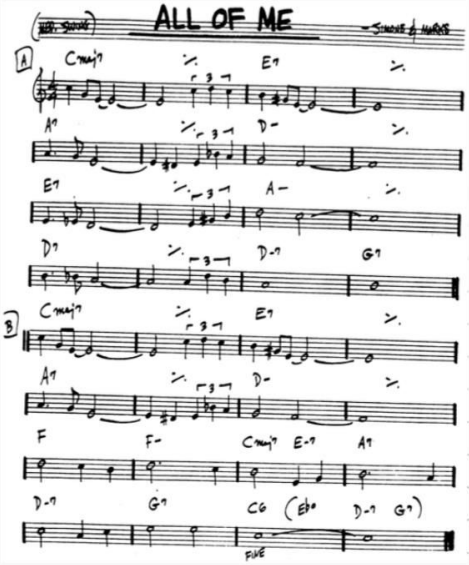
Interestingly, both early Classical (Baroque & Classical) and early Jazz (Dixieland & Swing) are harmonically relatively simple. And later Classical music (Romantic & Serialism) and later Jazz (Free Jazz & Post-bop) are more harmonically and structurally complex. In fact, there is some overlap with Jazz and 20th Century Classical music (Rhapsody in Blue).

1. Introduction to Jazz

Lead Sheets

In Classical music, you use sheet music which indicates every single note you need to play and exactly how to play it. In Jazz, on the other hand, we generally only use a lead sheet (see below). A lead sheet outlines only the skeleton of the song – the basic chord progression and melody – and you are NOT supposed to play it exactly as written. Your job as a Jazz musician is to take the basic chords and melody and:

- Create a more complex chord progression by using extensions, alterations and substitutions;
- Embellish the melody (have a listen to Louis Armstrong play a melody – he never quite plays it exactly as written) and improvise over the chord progression.



Rhythm

Jazz generally (though not always) uses a swing rhythm with a backbeat (accent on beats 2 & 4). This creates a strong syncopated feeling.

Form

Most 'Traditional' Jazz Standards have either a 12 bar Blues or a 32 bar AABA/ABAC form, and are played using a 'Head-Solo-Head' structure:

- **Head**: Means playing the chords and melody largely as written (with substitution and embellishment)
- **Solo**: Means improvisation over the same chord progression (again, with substitutions)

So the song is repeated multiple times with the melody played the first and last time through and improvisation squeezed into the middle. (More modern Jazz, like Post-bop or Free Jazz, use very different forms but we will get to that later).

Homophony

Jazz is almost always 'homophonic'. This just means that Jazz consists of two part:

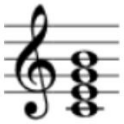
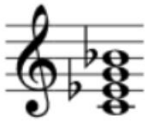
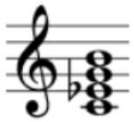
- Jazz Chords (Harmony); and
- Improvisation (Melody).

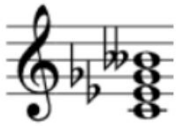
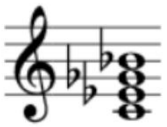
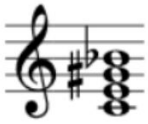
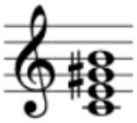
In this module we will be learning all about Jazz Chords – how to build them and how to analyse them. Then in later modules we will move on to discussing scales and improvisation.

2. Chord Tensions (Extensions & Alterations)

7th Chords

In Jazz, rather than using triads as our basic chord, we add another note on top (either a minor 7th or a Major 7th) to create **7th Chords**. This makes the chord sound a little more harmonically complex. The four basic types of triad can each be extended to create eight types of 7th chords.

Triad Derivation	7th Chord	Degree & Notes from C	Intervals	Notation	Sheet Music
Major	Major 7 Chord	1 3 5 7 C E G B	1 to 3 = Maj 3rd 3 to 5 = Min 3rd 5 to 7 = Maj 3rd	CΔ7 CMaj7	
	Dominant 7 Chord	1 3 5 ♭7 C E G B♭	1 to 3 = Maj 3rd 3 to 5 = Min 3rd 5 to 7 = Min 3rd	C7	
Minor	Minor 7 Chord	1 ♭3 5 ♭7 C E♭ G B♭	1 to 3 = Min 3rd 3 to 5 = Maj 3rd 5 to 7 = Min 3rd	Cm7 C-7	
	Minor Major 7 Chord	1 ♭3 5 7 C E♭ G B	1 to 3 = Min 3rd 3 to 5 = Maj 3rd 5 to 7 = Maj 3rd	CmMaj7 C-Δ7	

Diminished	Diminished 7 Chord	1 ♭3 ♭5 ♭♭7 C E♭ G♭ B♭♭	1 to 3 = Min 3rd 3 to 5 = Min 3rd 5 to 7 = Min 3rd	Cdim7 Co	
	Half Diminished 7 Chord	1 ♭3 ♭5 ♭7 C E♭ G♭ B♭	1 to 3 = Min 3rd 3 to 5 = Min 3rd 5 to 7 = Maj 3rd	Cm7b5 Cø	
Augmented	Augmented 7 Chord	1 3 #5 ♭7 C E G# B♭	1 to 3 = Maj 3rd 3 to 5 = Maj 3rd 5 to 7 = Dim 3rd	Caug7 C7#5 C+7	
	Augmented Major 7 chord	1 3 #5 7 C E G# B	1 to 3 = Maj 3rd 3 to 5 = Maj 3rd 5 to 7 = Min 3rd	CMaj+7 CMaj7#5 CΔ+7	

(Notice the Augmented 7th chord uses an interval of a Diminished 3rd. This is just a flattened minor 3rd (AKA a Major 2nd). This is done because if you were to add a Major 3rd on top of the #5 you would reach the root again.)

While there are eight types of 7th chords, the most important and most widely used are the:

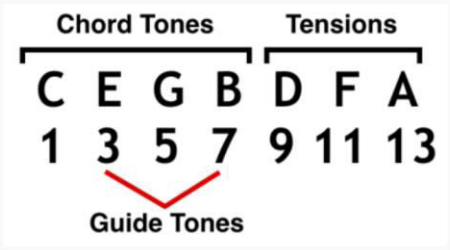
- Maj7 chord;
- Dominant 7 (V7) chord; and
- m7 chord.

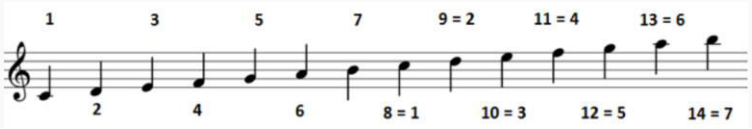
All the other types of 7th chords are generally used as substitutes for these three main chord types (e.g. a m7 chord can be substituted by a mMaj7 or half-dim chord; a V7 chord can be substituted by an Aug7 chord or a half-dim chord; etc.)

The root, 3rd, 5th, or 7th of a chord (called **Chord Tones**) determine the type of chord that it is and so cannot be altered:

- The root establishes the chord tonality (CMaj7 vs DMaj7);
- The 3rd & 7th (called Guide Tones) establish the chord quality (CMaj7 vs C7 vs Cm7); and
- The 5th establishes whether the chord is diminished or augmented (Co vs Cø vs C+7).

We can, however, extend our basic 7th chord by adding yet more notes on top of the 7th, again building up in thirds. This gives us a 9th, 11th and 13th – these are called **Chord Tensions**. The degrees are still in reference to the Major Scale. Below is the C Major Scale with all the degrees, over two octaves, listed.





So:

- The D is both the 2 and the 9.
- The F is both the 4 and the 11.
- The A is both the 6 and the 13.
- The D♭ is both the ♭2 and the ♭9
- The F# is both the #4 and the #11.
- The A♭ is both the ♭6 and the ♭13.

In this way, we can build a chord with up to 7 notes that contains every note of the C Major Scale. Adding another note one 3rd above the 13th will get you back to the root (A plus a minor 3rd = C).

When reading notation, you **in theory** should play all the notes up to and including the highest tension listed, for example:

- CMaj7 = C E G B
- CMaj9 = C E G B D
- CMaj11 = C E G B D F
- CMaj13 = C E G B D F A

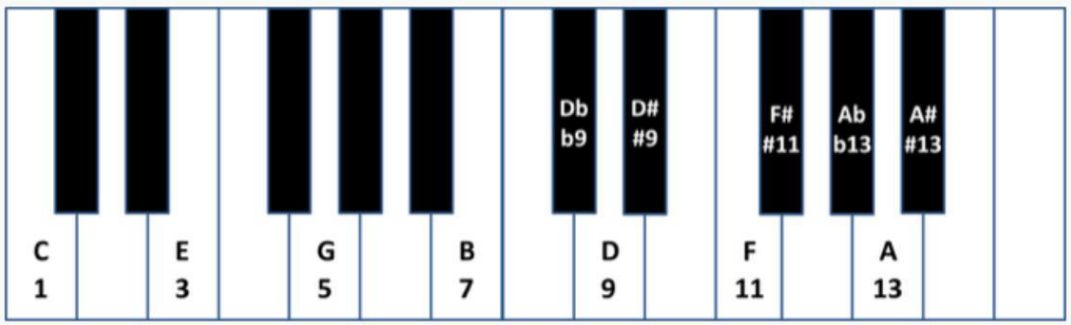
I say '**in theory**' because **in practice** this is not actually the case. In practice, it is possible to omit notes that are not important or that are '**unavailable tensions**'. But we will cover this in future lessons.

These **natural chord tensions** can also be flattened or sharpened by 1 semitone to create **altered chord tensions**. In this way all 12 notes can be assigned a degree in relation to the root note of the chord. Generally, you would NOT add more than one of each tension degree to a single chord (i.e. if you have a ♮9, you would usually NOT also have a ♭9 or #9).

Below is list of all 12 notes with each allocated a degree, based on chord type.

Note	C	C#/D♭	D	D#/E♭	E	F	F#/G♭	G	G#/A♭	A	A#/B♭	B
CMaj7	1	♭9	9	#9	3	11	#11	5	♭13	13	#13	7
C7	1	♭9	9	#9	3	11	#11	5	♭13	13	♭7	7
Cm7	1	♭9	9	♭3	♭11	11	#11	5	♭13	13	♭7	7
CmMaj7	1	♭9	9	♭3	♭11	11	#11	5	♭13	13	#13	7

So for example, a CMaj7 could be extended in the following way:



And again, we play all the notes up to and including the highest tension listed taking any alterations into account:

- CMaj9#11 = C E G B D F#
- CMaj13#11 = C E G B D F# A
- CMaj7#9 = C E G B D#

Other Chords

There are also other chords which don't exactly follow this 'stacked thirds' idea. These are discussed below.

- The 6th is the same note as the 13th, but it is played an octave lower and without playing the 9th or 11th. The 6th is usually used to replace to 7th in a chord.
  - C6 = C E G A (This is a substitute for a CMaj7 chord)
  - C69 = C E G A D (This is a substitute for a CMaj7 chord)
  - Cm6 = C E♭ G A (This is a substitute for a Cm7 chord)
  - Cm69 = C E♭ G A D (This is a substitute for a Cm7 chord)
- A suspended chord (or Sus chord) is a chord where the 3rd is replaced by either the 2nd or the 4th. A sus4 chord (where the 4th replaces the 3rd) is much more common than a sus2 chord. As such, you can drop the 4 in the notation as it in implied.
  - C7sus2 = C D G B♭
  - C7sus4 = C7sus = C F G B♭ (This is a substitute for a C7 chord)
- Sus chords can also be extended like any other chord. A specific type of sus chord is called a Phrygian Chord (because it is derived from the Phrygian mode). The Phrygian Chord is simply a:
  - C7sus♭9 = C F G B♭ D♭

*We will be discussing **Sus chords** and **Phrygian chords** later.*

Keys

It's worth explicitly stating that keys work the same way with 7th chords as they do with triads. A triad is considered to be in a particular key if it only uses notes from that key/scale. Similarly, a 7th chord is considered to be in a particular key if it only uses notes from that key/scale, there is just one more note to account for. Otherwise, there is no difference.

Chords in the key of C	I	ii	iii	IV	V	vi	vii
Triads	C	Dm	Em	F	G	Am	Bo
7th Chords	CMaj7	Dm7	Em7	FMaj7	G7	Am	Bm7♭5

In Practice

So that's the basics of Jazz Chords. If you've understood all that, you're well on your way to playing Jazz already. So in conclusion:

- In Jazz we use the 7th chord as our basic chord;
- We can extend and alter the 7th chord by adding tensions (9ths, 11ths and 13ths).

When you're playing from a lead sheet and you see the chord CMaj7, you would rarely just play a CMaj7 chord (as this sounds a bit boring). Instead you could play a CMaj9 or a CMaj13 or a CMaj13#11 or a C69 to make the chord a little bit more harmonically interesting.

However, while all tensions exist **in theory**, not all of them are used **in practice** (for example, you would never (rarely) find a CMaj7♭9♭13 chord in practice). To understand why, we need to discuss something called 'available tensions' which is the subject of the next lesson.

Here is an interesting video on the subject:

https://www.youtube.com/watch?v=A6Ete9i5yyc&feature=emb_logo

3. INTERVALS

There are two types of interval: **Consonant Interval** and **Dissonant Interval**

Consonant Interval	**Dissonant Interval**
Perfect Unison	Semitone (Minor 2nd)
Perfect Octave	Major 7th
Perfect 5th	Tritone
Perfect 4th	Minor 9th (Flat 9th) (Octave + Semitone)

Dissonant intervals create tension which sounds like they want to resolve to consonant intervals. This is the reason the Dominant chord feels like it wants to resolve to the Tonic chord. The dominant chord is an inherently dissonant chord because it has a triton interval between its 3rd and 7th and as such, it wants to resolve towards the consonant Tonic chord.

In jazz, the flat 9th interval is generally avoided because it is considered very dissonant. This flat 9th interval also determines whether a note is an Avoid Note (AKA Unavoidable Tension or conversely, an Available Tension).

Available Tension

In theory, all chord tensions (extensions and alterations), exist on all chord types. In practice only some are used over each chord type. These are called available tensions. As we learned in the previous lesson, the root, 3rd and 5th are called chord tones and the 9th, 11th and 13th are called tensions. As such, each of the twelve notes in an octave can be divided into the following categories and sub-categories:

- **Chord Tones** = 1,3,5,7
  - Weak Chord Tones = 1,5
  - Guide Tones = 3,7

- **Tensions** = (every other note: 9.11,13 or alterations of these: ♭9,♯9, etc)
  - Available Tensions = some tensions based on chord types
  - Avoid Notes (unavailable tensions) = all other tensions

Guide Tones are the most harmonically important notes because they establish the quality of the chord.

Avoid Notes are notes that cause a dissonant interval with one of the chord tones.

Guide Tones and Avoid Notes will be discussed further in a later lesson.

So, there are two types of tensions: available and unavailable. These vary based on chord type.

Available tensions complement the consonance / sound / feel of the chord

Unavailable tensions conflict with the consonance / sound / feel of the chord. More specifically, an unavailable tension is a note that creates a !9 interval with a chord tone.

So again, whilst in theory, all tensions exist on all chord types, in practice only 'available tensions' are used. For example, a CMaj7♭9 chord exists in theory, but you will never find it in practice because a ♭9 is not an available tension over a Maj7 chord. The Maj7 has available tensions of 9, #11, 13.

Non-Dominant Chords

First let's deal with all chords except for Dominant chords. Below is a table which lists a number of different non-dominant chord types and their respective available tensions (coloured Green).

Blue = Chord Tone	Green = Available Tension	Red = Unavailable Tension

CMaj7	C	D♭	D	D♯	E	F	F♯	G	A♭	A	B♭	B
	1		9		3		♯11	5		13		7
Cm7	C	D♭	D	E♭	E	F	F♯	G	A♭	A	B♭	B
	1		9	♭3		11		5		13	♭7	
Cø	C	D♭	D	E♭	E	F	G♭	G	A♭	A	B♭	B
	1		9	♭3		11	♭5		♭13		♭7	
CmMaj7	C	D♭	D	E♭	E	F	F♯	G	A♭	A	B♭	B
	1		9	♭3		11		5		13		7
CMaj+7	C	D♭	D	D♯	E	F	F♯	G	G♯	A	B♭	B
	1		9		3		♯11		♯5			7
C°	C	D♭	D	E♭	E	F	G♭	G	A♭	B♭♭	B♭	B
	1		9	♭3		11	♭5		♭13	♭♭7		7

Notice that:

- Chord tones make up the chord, these are coloured blue.
- The chord tones plus one semitone are called 'avoid notes', these are coloured red.
- The chord tones plus two semitones are called 'available tensions', these are coloured green.
- All the other notes are also classified as 'avoid notes', and coloured red.

Using the above rules you can discover the 'available tensions' of any non-dominant chord.

Dominant Chords

Dominant chords are a bit different. They are already considered quite dissonant because of that tritone interval between the 3rd and 7th. With dominant chords, you are allowed to create a ♭9 interval against the root and 5th; but **NOT** against the 3rd and 7th. This is because the 3rd and 7th are Guide Tones and are thus more harmonically important. So you don't want to clash with the more important notes (3rd & 7th), but you can clash with the less important notes in a Dominant chord (root and 5th).

Below is a table which lists a number of different dominant chord types and their respective available tensions (coloured Green).

Blue = Chord Tone	Green = Available Tension	Red = Unavailable Tension

C7	C	D♭	D	D♯	E	F	F♯	G	A♭	A	B♭	B
	1	♭9	9	♯9	3		♯11	5	♭13	13	♭7	
C7sus	C	D♭	D	D♯	E	F	F♯	G	A♭	A	B♭	B
	1	♭9	9	♯9	♭11	4		5	♭13	13	♭7	
C+7	C	D♭	D	D♯	E	F	F♯	G	G♯	A	B♭	B
	1	♭9	9	♯9	3		♯11		♯5	13	♭7	

Notice that:

- Chord tones make up the chord, these are coloured blue.
- The guide tones (3rd & 7th) plus one semitone are called 'avoid notes', these are coloured red.
- All the other notes are 'available tensions', these are coloured green.

Both 'unavailable tension' and 'avoid note' relate to notes that create a dissonant interval with one of the chord tones (which is why I use them synonymously), but 'unavailable tensions' are in the context of chords while 'avoid notes' are in the context of scales).

What makes Available Tensions 'available'?

So there are four basic 7th chords:

- Maj7
- V7
- m7
- mMaj7

(*There are also dim7 and Aug7 chords but these work a little bit differently*).

And each 7th chord has a particular feel or sound.

Chord	Feel/Sound
CMaj7	Happy or calm
C7	Tense
Cm7	Sad
CmMaj7	Confused sadness

It is believed that an available tension complements the sound or feel or consonance of the 7th chord. For example:

- A CMaj7 chord sounds 'happy' and 'calm'
  - A CMaj9 chord (available tension) still retains the same sound or feel as the CMaj7 chord. It still feels 'happy' and 'calm'.
  - Similarly, a CMaj13#11 (all available tensions) also retains the 'happy' and 'calm' sound of a standard CMaj7 chord.
  - But a CMaj7♭9 chord (unavailable tension) no longer sounds 'happy' or 'calm'. Instead, it sounds very dissonant and jarring. The ♭9 ruins or clashes with the feel of a CMaj7 chord – and is therefore 'unavailable'. a CMaj7♭9 chord no longer feels or sounds like a CMaj7 chord. It sounds more like a diminished chord of some kind.
- Similarly, a Cm7 chord sounds 'sad'.
  - A Cm11 (available tensions) also sounds 'sad'.
  - But a Cm7♭9#11 (unavailable tensions) sound harsh and tense. The ♭9 and #11 ruin the feel of the minor chord.
- On the other hand, a C7 chord already sounds 'tense' and 'dissonant' (again, because of the tritone between the 3rd and 7th).
  - So a C7♭9#11♭13 (all available tensions) still sounds 'tense' and 'dissonant', so still feels like a C7 chord, so is a perfectly fine chord to play.
  - However, a C11 (unavailable tension) is thought to ruin the purity of the C7 chord because the 11th (F) clashes with the 3rd (E). (This makes it sound like a C7sus chord).
  - Similarly, the C7 cannot have a ♮7 (B) because it already has a ♭7 (B♭). As such, this is also an unavailable tension.

In Practice

So if you're playing a song and you want to extend or alter a particular chord to create a more complex harmony, make sure you use 'available tensions' – so that the chord tensions do not clash with the underlying consonance and harmony of the chord.

Here are two videos to watch:

https://www.youtube.com/watch?v=KKk1HLsbi7A&feature=emb_logo

https://www.youtube.com/watch?v=t4MIYbysZa8&feature=emb_logo

4. Shell Chords & Omitting Notes

Omitting Unavailable Tensions

In the previous lesson on Available Tensions, we established that not all notes in a chord are of equal importance.

- The 3rd and 7th of a chord (called **Guide Tones**) are the most harmonically important notes because they establish the quality of the chord (i.e. whether it's a Maj7, m7, V7, etc.);
- The root and the 5th of a chord are relatively less important;
- The 9th, 11th, and 13th (called **Tensions**) are even less important.

In Jazz you don't always need to play every single note in a chord. It's common practice to omit any unavailable tensions from a chord. For example, a CMaj13 chord and a C13 chord (both of which you will come across in practice) both implicitly omit the ♮11 because it is an unavailable tension or avoid note. So:

- CMaj13 = C E G B D ( ) A
- C13 = C E G B♭ D ( ) A

Shell Chords

We also learned that each main type of 7th chord has a particular 'feel'.

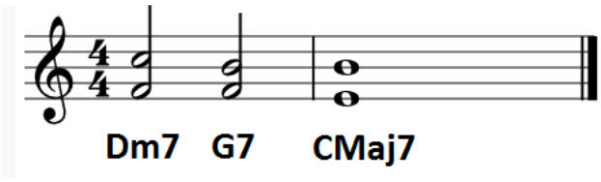
Chord	Feel/Sound
CMaj7	Happy or calm
C7	Tense
Cm7	Sad
CmMaj7	Confused sadness

Well, it's possible to omit the less important notes (root & 5th) from a chord and only play the guide tones (3rd & 7th) and still retain the original 'feel' of the chords. So for example, you could play a:

- CMaj7 – as just E & B
- C7 – as just E & B♭ (a tritone interval)
- Cm7 – as just E♭ & B♭
- CmMaj7 – as just E♭ & B

This is called a **shell chord** (because it's only the shell of the whole chord). Shell chords are important because they represent the minimum harmonic material (i.e. notes) needed to play a chord. Any chord voicing should generally include the 3rd and the 7th of the chord; without these the chord will sound incomplete.

Playing a II-V-I in the key of C Major using shell chords would look as follows:



Notice how smoothly each chord transitions to the next. Only one note needs to move to get from Dm7 to G7 and to get from G7 to CMaj7. This is one of the advantages of shell chords – their simplicity.

Playing shell chords has the following advantages:

- As I mentioned above, they are simple – after all, you're only playing 2 notes;
- It sounds harmonically strong because you're emphasising only the two most important notes;
- By playing so few notes you 'create space' for the soloist (or your right hand) to play a faster and more harmonically complex improvisation. A solo is less likely to clash with the harmony if the harmony has fewer notes.

Chord Ambiguity

A topic we will run into many times in the course of these lessons is that of Chord Ambiguity. Shell chords, because you are playing so few notes, are ambiguous. Playing two notes could indicate a number of different shell chords. For example, playing B & F could be a G7 (3rd & 7th) or D♭7 (7th & 3rd). And the only way to know whether the shell chord is a G7 or a D♭7 is to look at the next shell chord. If the next shell chord is B & E (CMaj7) then the prior chord was a G7; whereas if the next shell chord is B♭ & F (G♭Maj7) then the prior chord was a D♭7. We will explore this further in the next lesson on Chord Substitution.

In Practice

Bebop pianists (circa 1940's) like Bud Powell used shell chords when accompanying themselves or a soloist. This is because Bebop solos are fast and complex, so the chords had to be simple and sparse to stay out of the soloist's way. Bud also added a root note to shell chords to establish the tonality of the chord (CMaj7 = C E B).

We will come across the idea of omitting the root and/or 5th of a chord again in later lessons, when we discuss Rootless Chord Voicings and Bud Powell Voicings.

Here's the complementary video:

https://www.youtube.com/watch?v=-dbrnrmFRYo&feature=emb_logo

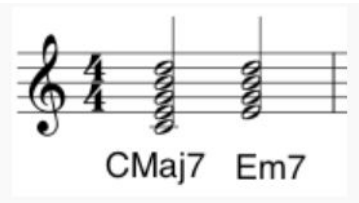
5. Chord Substitution

In the previous lesson on Shell Chords, we learned that you don't always have to play every single note in a chord. In fact, you can omit any note except for the 3rd and 7th (Guide Tones) of the chord and still retain the general sound or feel of the original chord.

For this same reason chords can be substituted. If the substitute chord contains the 3rd and the 7th of the substituted chord, the two chords will have a similar feel and so can act as substitutes for each other. The five most common chord substitutions found in Jazz are shown below.

Substitution Name	Original	Substitute Chord
Median Note Substitution	CMaj7	Em7 Am7
	Am7	CMaj7 FMaj7
ii-V7 Substitution	G7	Dm7 G7
	G7	Em7 A7 | Dm7 G7
II7-V7 Substitution	G7	D7 G7
	G7	E7 A7 | D7 G7
#Vdim7 Substitution	G7	G#dim7
Tritone Substitution	G7	D♭7

But substituting chords and omitting notes are really the same thing; they are two sides of the same coin. For example, if we can omit any note other than the 3rd and 7th, then we can omit the root. If, then, we take a CMaj7 chord (C E G B) and extend it to make a CMaj9 (C E G B D) and then drop the root note, we get an Em7 (E G B D) which is a Median Note Substitution for a CMaj7. So an **Em7 is a rootless CMaj9**. This is why chord substitution works.



So we find that a sad chord (Em7) also sounds like a happy chord (CMaj7), which is interesting.

Chord Ambiguity

So again we find that chords are very ambiguous. They depend on the note that's being played in the bass (the bass-note) and on the chord that's played before and after that particular chord (the chord progression).

For example, let's take the notes E G A and C. Now, these four notes can be:

- a C6 chord (C E G A);
- an Am7 chord (A C E G); or
- a Rootless FMaj9 chord ([ ] A C E G).

And the only way to tell the difference is by looking at the chord progression and at the bass-note. The most common chord progression that establishes the tonic chord is a V-I perfect cadence. So if we have:

- a G7 going to that collection of notes (C E G A) with a C in the bass, then we have a C6;
- an E7 going to that collection of notes (C E G A) with an A in the bass, then we have an Am7;
- a C7 going to that collection of notes (C E G A) with an F in the base then we have an FMaj9.

In Practice

A jazz musician would never play a song exactly as written on a lead sheet. Instead, he or she would add tensions or use chord substitutions to make the chord progression more interesting. Below are a few examples of how a II-V-I in the key of C can be made more interesting and complex by using extensions, alterations and substitutions. Notice also that a substituted chord can be further extended and altered.

Original Progression	Dm7	G7	CMaj7
Substitution #1	Dm11	D♭9 *(tritone sub)*	CMaj13#11
Substitution #2	FMaj9 *(median note sub)*	G13	Am9 *(median note sub)*
Substitution #3	Em11 - A7♭9	Dm11 - G7♭9 *(ii-V sub)*	CMaj9
Substitution #4	Bm7♭5 *(median note sub)*	Bo7 *(#Vdim7 sub)*	Am7 *(median note sub)*

Notice that Bo7 (B D F A♭) is the same chord as G#dim7 (G# B D F) only from a different root note. Diminished chords repeat every minor 3rd interval. This was done so the bass notes moved smoothly (i.e. in small intervals) and didn't jump around too much.

We will discuss chord substitution in much more detail when we learn about **Jazz Reharmonization**.

Here is the topical video:
https://www.youtube.com/watch?v=fwn1SqE4hhs&feature=emb_logo

6. Passing Chords & Approach Chords

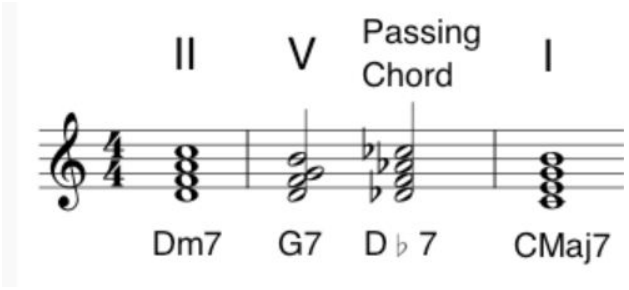
Introduction

Passing chords are literally that, chords that you pass by. They are chords you pass through quickly on your way from one chord to the next in the chord progression. Because they are played quickly (they generally never last more than 1/2 a bar), they are not harmonically important. And because they are not harmonically important, they can be almost any chord you like. Passing chords can make a chord progression more interesting because they speed up the rate at which chords change (called **Harmonic Rhythm**) and make a chord progression more harmonically interesting.

Passing Chords

Passing chords generally have the following features:

- They last for a very short period of time *(1/4 or 1/2 a bar).* You never sit on them for long, they are *passing* chords, you pass by them quickly;
- They are inserted between two harmonically important chords (i.e. chords that are written out on a lead sheet and that occur on beats one or three of a bar);
- They can be **diatonic** (a chord from the key that you are playing in) or **non-diatonic** (a chord NOT from the key that you are playing in);
- They can be consonant or dissonant.



A specific type of passing chord is called an **approach chord**. This is a passing chord that is either 1 (*chromatic*) or 2 (*diatonic*) semitones away from the next chord.

Let's take the following chord progression: | CMaj7 | Dm7 ||

We can insert a passing chord between the CMaj7 and the Dm7. The most widely used passing chords are shown in the below table.

Passing Chord Name	Chord Progression
Original Chord Progression	| CMaj7 | Dm7 ||
Tritone (of previous chord)	| CMaj7 - G♭7 | Dm7 ||
Tritone (of next chord)	| CMaj7 - A♭7 | Dm7 ||
Approach #1 (diatonic)	| CMaj7 - Em7 | Dm7 ||
Approach #2 (semitone)	| CMaj7 - D♭7 | Dm7 ||
Approach #3 (semitone)	| CMaj7 - E♭7 | Dm7 ||
Diminished #1	| CMaj7 - D♭o7 | Dm7 ||
Diminished #2	| CMaj7 - E♭o7 | Dm7 ||
Dominant-minor	| CMaj7 - D7 | Dm7 ||
Secondary V	| CMaj7 - A7 | Dm7 ||
Secondary II, V	| CMaj7 - Em7 A7 | Dm7 ||

Note: That both the chord and the bass-line movement are important when transitioning between chords. You want both to be smooth. I will have more to say about this in future lessons.

Theoretical Convergence

You may have noticed some of the above approach chords are also **chord substitutions**. For example, the Diatonic Approach Chord of Em7 is also a Median Note substitution of CMaj7. You will also notice that one of the passing chords is a **Secondary Dominant** (the subject of our next lesson).

At this point it is worth noting that there is more than one way to analyse a chord progression. We will come across many theoretical concepts that try to explain the same chord in different ways. All of them are right in their own way.

Let's again take the chord progression: | CMaj7 – Em7 | Dm7 ||

To some the Em7 will be a passing chord. To others the Em7 will be a half-bar chord substitution of the CMaj7 chord. Both of these are correct. I'll say it again. **There are many ways of analysing the same chord progression**.

It's important to remember that: **first came music, then came theory**. A musician writes a particular chord progression that happens to sound good, and then it's up to the theoretician to figure out why it sounds good. And in order to do this, they come up with various ideas and concepts. Because of this, there are a number of different ways to analyse the same chord progression. We will find this is the case with many of the concepts we cover in the future.

In Practice

Passing chords are never written into the chord progression of a song. By definition, they are not harmonically important, so a lead sheet will never display them. It's at your discretion when and where you insert a passing chord, and what kind of passing chord you insert.

In the below chart, using 'All of Me' as an example I have inserted passing chords. Have a listen to what it sounds like in practice.

Original All of Me Chord Progression							
C7	C7	E7	E7	A7	A7	Dm7	Dm7
E7	E7	Am7	Am7	D7	D7	Dm7	G7
All of Me Chord Progression with Passing Chords #1							
C7	C7 - Dm7	E7	E7 - B♭7	A7	A7 - Eø7 A7	Dm7	Dm7 - D#o7
E7	E7 - Bø7	Am7	Am7 - A♭7	D7	D7 - A♭7	Dm7 - Do7	G7 - D♭7
All of Me Chord Progression with Passing Chords #2							
C7 - C#dim	Dm7 - D#o7	E7 - CMaj7	Bø7 - E7	A7 - A♭7	A7 - G7	Dm7 - C#o7	Dm7 - D#o7
E7 - F7	G7 - G#7	Am7 - E7	A♭7 - E♭7	D7 - D#o7	D7 - Eø7	Dm7 - Do7	G7 - D♭7

Here's the accompanying video:

https://www.youtube.com/watch?v=e7En25foxgs&feature=emb_logo

7. Secondary Chords & Tonicization

Tonicization

Let's begin this lesson with a few definitions:

- **Modulation** is changing a key of a **long** period of time.
- **Tonicization** is changing key for a **short** period of time. It is the process of temporarily making a non-tonic chord sound like the tonic, just for a moment, by using **Secondary Chords** before immediately returning back to the original key.

Tonicization is short (a couple bars at most) while modulation is long (no less than two bars).

Secondary Chords

There are two ways to 'tonicize' a chord (i.e. there are two types of Secondary Chords), by inserting either a:

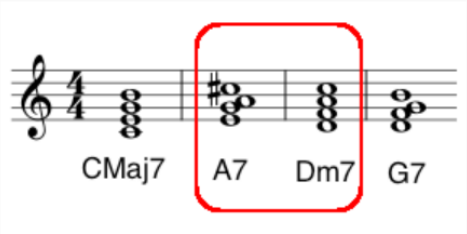
- **Secondary Dominant (V7)**; or
- **Secondary Leading-Tone Chord (viiø7 OR viio7)**.

before the chord you are trying to 'tonicize'.

The idea is to create a **V-I Perfect Cadence** with a non-tonic diatonic chord, so it sounds like you temporarily change key, before immediately going back to the original key.

As an example, let's tonicize the Dm7 in the following chord progression:

Original Chord Progression	CMaj7	Am7	Dm7	G7
Secondary Dominant	CMaj7	**A7**	Dm7	G7
Secondary Leading-Tone Chord	CMaj7	**C#ø7 OR C#o7**	Dm7	G7



Notice:

- The original chord progression is in the key of C Major;
- Neither A7 nor C#o7 nor C#ø7 are in the key of C Major, in fact both are in the key of D (Harmonic or Melodic) Minor (Dm7 being the chord that is being tonicized). Secondary Chords are by definition in a different key;
- Note: The C#o7 (C# E G B♭) acts like a rootless A7♭9 (A C# E G B♭);
- After the secondary dominant we immediately return to the key of C Major – with the chords Dm7 and G7;
- Because we only change key for a short period of time (one or two bars), we do not call this modulation. We still remain in the key of C Major for this entire chord progression, even though we use one non-diatonic chord. When improvising, you can continue using the C Major Scale over Secondary Chords (or use a different scale, it's up to you).

Toncization is done to make a chord progression more harmonically complex and provide a stronger pull to the toncized chord (dominant chords are unstable because they have a tritone between their 3rd and 7th. This gives them a strong tendency to resolve down a fifth to a tonic).

Theoretical Convergence

As was mentioned in the last lesson, there is more than one way to analyse a chord or chord progression. For example, that A7 above can be thought of as a:

- Secondary Dominant of Dm7
- Passing Chord to Dm7
- Substitute Chord for Am7

All of these are perfectly accurate analyses.

Non-tonic, diatonic, non-leading-tone chords

Toncization only works on non-tonic, diatonic, non-leading-tone (VII) chords. Let me break this down. Say we are in the key of C Major. The following chords are all in the key of C Major:

- CMaj7 – this is the tonic chord. You CANNOT tonicize the tonic chord. You CANNOT temporarily make the tonic chord the tonic chord because it is already the tonic chord.
- Dm7 – you can tonicize (as in the above example)
- Em7 – you can tonicize
- FMaj7 – you can tonicize
- G7 – you can tonicize
- Am7 – you can tonicize
- Bø7 – you CANNOT tonicize. The whole idea of toncization is to create a **V-I Perfect Cadence** with a different chord. By definition, a half-diminshed chord cannot be a tonic (I) chord. Only Major and Minor chords can be tonic chords. Therefore you cannot tonicize the Bø7

- Also, you CANNOT tonicize a chord that is NOT in the key of C Major (a non-diatonic chord). This is because the whole point of tonicization is to temporarily and quickly change key before immediately going back to the original key. If you tonicize a chord that is not in the key of C Major, you are not immediately going back to the original key. This would more likely be a modulation.

A Few More Examples

Here are a few more examples of what you can do with Secondary Dominants:

Cycling Secondary Dominant	CMaj7 - B7	Em7 - A7	Dm7 - G7	CMaj7
Cycling Secondary Dominant without resolving	CMaj7 - B7	E7 - A7	D7 - G7	CMaj7
Secondary ii, V	CMaj7	Em7 - A7	Dm7	G7
Chromatic Cycling Secondary ii, V	Em7 - A7	E♭m7 - A♭7	Dm7	G7

In Practice

You will find secondary dominants in the chord progressions of many Jazz Standards. Keep an eye out for them. However, you can also add secondary dominant (just like passing chords) to make a chord progression more interesting. It's up to you.

Here's an informative video on the subject:

https://www.youtube.com/watch?v=alDSEBsxJIw&feature=emb_logo

8. Modal Interchange & Borrowed Chords

Introduction

The previous lesson on Secondary Dominants distinguished between:

- Modulation = Changing key for a long period of time; and
- Tonicization = Changing key for a short period of time by using a dominant chord

It's useful to make a similar differentiation between Modulation and **Modal Interchange**:

- Modulation = Changing key for a long period of time
- Modal Interchange = Changing key (using chords from a different key) for a short period of time while retaining the same 'tonal centre' (root note)

What 'a long period of time' compared to 'a short period of time' means is subjective.

Modal Interchange is used to add 'colour' to a chord progression and make it a little more interesting.

Relative vs Parallel Key

It's also worth quickly explaining the difference between a **relative key** and a **parallel key**:

- Relative key = two keys that have the same notes but a different root note (C Major & A natural minor)
- Parallel key = two keys that have different notes but the same root note (C Major & C natural minor)

In Modal Interchange you 'borrow' a chord from a **parallel key**. This is why using 'Modal Interchange' is also called using 'Borrowed Chords'. You can 'borrow' a chord from a parallel key or mode, and as long as the chord progression is still leading towards the ultimate tonic chord, it won't sound like you've completely changed key – it won't be 'Modulation'.

Modal Interchange & Borrowed Chords

Below is a table of all the Modes of the Major Scale, the Melodic Minor Scale and the Harmonic Minor scale and all their associated chords – both in Roman Numerals and from the root note of C.

Roman Numbers

Scale	1 (Root)	2	3	4	5	6	7
Ionian	IMaj7	IIm7	IIIm7	IVMaj7	V7	VIm7	VIIm7♭5
Dorian	Im7	IIm7	♭IIIMaj7	IV7	Vm7	VIm7♭5	♭VIIMaj7
Phrygian	Im7	♭IIMaj7	♭III7	IVm7	Vm7♭5	♭VIMaj7	♭VIIm7
Lydian	IMaj7	II7	IIIm7	#IVm7♭5	VMaj7	VIm7	VIIm7
Mixolydian	I7	IIm7	IIIm7♭5	IVMaj7	Vm7	VIm7	♭VIIMaj7
Aeolian	Im7	IIm7♭5	♭IIIMaj7	IVm7	Vm7	♭VIMaj7	♭VII7
Locrian	Im7♭5	♭IIMaj7	♭IIIm7	IVm7	♭VMaj7	♭VI7	♭VIIm7
Melodic Minor	ImMaj7	IIm7	♭IIIMaj7#5	IV7	V7	VIm7♭5	VIIm7♭5
Harmonic Minor	ImMaj7	IIm7♭5	♭IIIMaj7#5	IVm7	V7♭9	♭VIMaj7	VIIo7

Root C

Scale	1 (Root)	2	3	4	5	6	7
C Ionian (C Major)	CMaj7	Dm7	Em7	FMaj7	G7	Am7	Bm7♭5
C Dorian (B♭ Major)	Cm7	Dm7	E♭Maj7	F7	Gm7	Am7♭5	B♭Maj7
C Phrygian (A♭ Major)	Cm7	D♭Maj7	E♭7	Fm7	Gm7♭5	A♭Maj7	B♭m7
C Lydian (G Major)	CMaj7	D7	Em7	F#m7♭5	GMaj7	Am7	Bm7
C Mixolydian (F Major)	C7	Dm7	Em7♭5	FMaj7	Gm7	Am7	B♭Maj7
C Aeolian (E♭ Major)	Cm7	Dm7♭5	E♭Maj7	Fm7	Gm7	A♭Maj7	B♭7
C Locrian (D♭ Major)	Cm7♭5	D♭Maj7	E♭m7	Fm7	G♭Maj7	A♭7	B♭m7
C Melodic Minor	CmMaj7	Dm7	E♭Maj7#5	F7	G7	Am7♭5	Bm7♭5
C Harmonic Minor	CmMaj7	Dm7♭5	E♭Maj7#5	Fm7	G7♭9	A♭Maj7	Bo7

Notice that all the scales have the same root note – C – so they are all 'parallel'. This means you can borrow any chord from any of these 'keys'.

So let's take a II-V-I in the key of C Major and borrow some II-V's from different modes:

Major	Dm7	G7	CMaj7
Harmonic Minor	Dm7♭5	G7♭9	CMaj7
Aeolian	Dm7♭5	Gm7	CMaj7
Phrygian	D♭Maj7	Gm7♭5	CMaj7
Lydian	D7	GMaj7	CMaj7

We can 'borrow' the II-V chords from any of the other 'parallel keys'. All of these are plausible 'modal interchanges', because the tonal centre stays the same – C. The chord progressions still feel like they are leading towards the CMaj7 chord.

However, some 'borrowed chords' work better than others and thus are used more often than others. Remember the definition of 'modal interchange' is a change of key while still retaining the same tonal centre. The Lydian mode 'modal interchange' has a D7 moving to the GMaj7. This creates a V-I perfect cadence which makes it sound like the tonal centre is G (that's the nature of a V-I cadence – that's how tonicization works). But we want C to sound like the tonal centre, so this particular modal interchange doesn't work very well.

The Harmonic Minor II-V 'modal interchange', on the other hand, works very well as it still retains the C as the tonal centre because of that altered G7 chord.

By far, the most common borrowed chords you will come across are between the Major Scale and a parallel minor scale. Some especially common borrowed chords are:

Mode	Modal Interchange	Songs
Aeolian	- Minor iv - ♭VII7 (Backdoor progression) - ♭VI - ♭III	- All The Things You Are - I Got Rhythm - There will never be another you - My Romance - Lament - Lady Bird - Misty - Cherokee
Harmonic Minor	- Minor II-V	- Alone Together - What is this thing called love? - You Go To My Head
Mixolydian	- I7	- Every Blues Song - I Got Rhythm - Alone Together

If we look at Section A of *I Got Rhythm*, we see the below chords

I Got Rhythm			
B♭6 - Gm7	Cm7 - F7	B♭6 - Gm7	Cm7 - F7
B♭6 - **B♭7**	E♭6 - **E♭m7**	B♭6 - Gm7	Cm7 - F7

The **Red** chord are borrowed from the Mixolydian and Aeolian modes.

Mode	1	2	3	4	5	6	7
B♭ Major	B♭Maj7	Cm7	Dm7	E♭Maj7	F7	Gm7	Am7♭5
B♭ Mixolydian (E♭ Major)	**B♭7**	Cm7	Dm7♭5	E♭Maj7	Fm7	Bm7	A♭Maj7
B♭ Aeolian (D♭ Major)	B♭m7	Cm7♭5	D♭Maj7	**E♭m7**	Fm7	G♭Maj7	A♭7

Notice that:

- The borrowed chords are surrounded on both sides by chords from the key of B♭ Major
- The 'key change' only happens for ½ a bar
- The 'tonal centre' still sounds like it is B♭

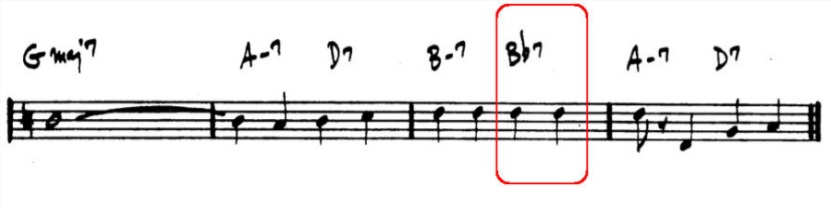
Therefore, this is NOT modulation but rather modal interchange.

But this raises the obvious question, how long does a modal interchange have to be before it becomes a modulation? Obviously, there's no answer to this question. It's subjective, because the answer depends on what you perceive the tonal centre or root note to be. If you hear a change in the tonal centre – then it's modulation. If you do NOT hear a change in the tonal centre – then it's modal interchange. And so the line between modulation, toniciziation and borrowed chords, is fuzzy.

Also notice that you can borrow the same chord from a number of different modes. For example, you can borrow the 'Fm7' from the Phrygian, Aeolian, Locrian, and Harmonic minor scales. Now, an Fm7 is an Fm7, so it doesn't really matter which mode you 'borrowed' it from – but the answer will depend on the analysis of the whole chord progression.

Theoretical Convergence

As I mentioned in previous lessons, there are many ways of analysing the same chord progression each of which is correct. Take, for example, the song *How High The Moon* (in the key of G Major). There is a section of that song that goes as follows:



What is the circled B♭7 chord?

- A passing chord to Am7?
- A tritone substitute for a secondary dominant to Am7?
- A borrowed ♭III7 chord from Phrygian Mode (Modal Interchange)?

All of these are plausible explanations for this single chord.

And if modal interchange is just borrowing a chord from a parallel key, then there's no reason you need to limit yourself to the modes of the Major Scale or the Melodic or Harmonic minor. You could also use chords from the modes of the harmonic minor or melodic minor or from the diminished or augmented or wholetone scales. You can use chords derived from any scale that has a root note of C.

For example, *Take the A Train* is in the key of C Major and uses a:

- D7#11 – which is derived from the Lydian Augmented Scale (which is the 4th mode of the melodic minor scale); or
- D7♭5 – which is derived from the wholetone scale.

So you can borrow any chord from any scale, as long as the root note (or 'tonal centre') stays the same.

In Practice

You will find borrowed chords in the chord progressions of many Jazz Standards. Keep an eye out for them. However, you can also add borrowed chords (just like passing chords) to make a chord progression more interesting. It's up to you.

Again, the corresponding video:

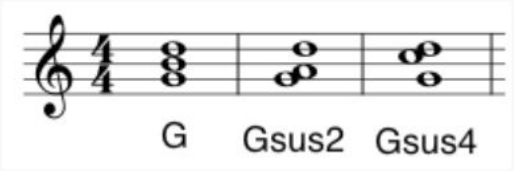
https://www.youtube.com/watch?v=VZVAhmXNmA8&feature=emb_logo

9. Suspended Chords

Introduction

Suspended Chords (or Sus Chords) are chords where the 3rd has been replaced by a 2nd or (usually) 4th. These create a much more ambiguous and floating sound.

- Basic G Triad = G B D
- Gsus2 = G A D
- Gsus4 = Gsus = G C D



The sus4 chord is much more common than the sus2 chord, so the '4' is often dropped. So if you see just a sus chord with no number after it, it implies a sus4 chord.

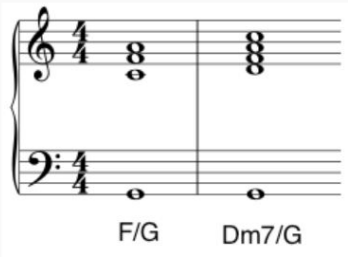
Suspended Chords

In Jazz, sus chords act as substitutes for ii or V7 chords and are usually extended to 9sus or♭9sus chords (we will discuss♭9sus chords in the next lesson).

- Dm7 = **D F A** C
- G9 = G B **D F A**
- G9sus = G C **D F A**

However, these are generally voiced as:

- F/G =
  - *LH*: G
  - *RH*: F-A-C
- Dm7/G =
  - *LH*: G
  - *RH*: D-F-A-C



As you can see, there is only one note difference between the Dm7 and G9sus (the G) and a G7 and G9sus (the C). So, in a sense, the sus chord is half way between a ii (Dm7) and a V7 (G7) chord, which is why it can act as a substitute for both. So for example, if we take a II-V-I in the key of C, we can substitute in the G9sus chord in as follows:

ii	V	I
Dm7	**G7**	**CMaj7**
G9sus	G7	CMaj7
Dm7	G9sus	CMaj7
Dm7 - G9sus	G7	CMaj7
G9sus	G9sus	CMaj7

Suspended chords create an interesting and, dare I say, suspenseful sound and are used quite often in modern jazz. Further, just because the sus chord replaces the 3rd with a 4th DOESN'T mean you can't play the 3rd as well. You can also play a 3rd in a sus chord (though you should place it above the 4th in your chord voicings otherwise it will sound like a G11 chord and thus quite dissonant).

We will encounter the idea of using intervals of 4ths rather than 3rds to build chords again when we discuss **So What Chords** and **Quartal Voicings**.

In Practice

You will occasionally see sus chords written out in lead sheets. However, you can also use them like a regular chord substitution over a dominant chord. In fact, they can be quite useful because while the ♮11 is an unavailable tension over the regular V7 chord; it is a chord tone over the V7sus chord. Therefore you have one extra note you can use over a V7sus chord compared to a V7 chord.

Have a Listen to

- Maiden Voyage ~ Herbie Hancock
- Dolphin Dance ~ Herbie Hancock
- Passion Dance ~ McCoy Tyner
- Eight-One ~ Ron Carter

Here is the video you have come to expect:

https://www.youtube.com/watch?v=WVPW0SfVFIA&feature=emb_logo

10. Phrygian Chords

Introduction

Phrygian Chords are simply sus♭9 chords. They are derived from either the:

- Phrygian mode (3rd mode of Major Scale); or
- Dorian ♭2 mode (2nd mode of the melodic minor scale).

And you can use these two modes to improvise over Phrygian Chords.

Unavailable Tensions (AKA Avoid Notes)

Let's look at the E Phrygian mode (3rd mode of C Major). If we take E Phrygian mode and derive the tonic 7th chord and tonic 13th chord of that key we get:

- E Phrygian Scale = E F G A B C D
- Associated 7th Chord = Em7 = E G B D
- Associated Extended Chord = Em7♭9♭13 = E G B D F A C

Notice that the extended 13th chord derived from the E Phrygian mode is Em7♭9♭13. Now, as we learned in the lesson on Available Tensions, neither the ♭9 nor the ♭13 are available tensions over a m7 chord. The Phrygian Chord exists to fix this problem.

And as we learned in the previous lesson, in Jazz, suspended chords act as substitutions for V7 chords. The Phrygian Chord is no different.

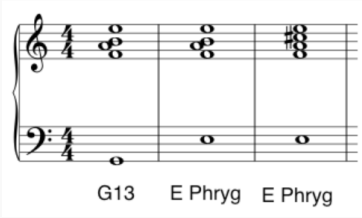
Phrygian Chords

So let's look at the Em7♭9♭13 chord again. By changing the ♭3rd into a 4th, we turn the Em7♭9♭13 into a E7sus♭9♭13. And if we drop the 13th, then we have an E7sus♭9 (or Esus♭9) – the E Phrygian Chord. By doing this, we have turned a Em7 chord into an E7 (substitute) chord. The benefit of this is that the ♭9 and ♭13 **ARE BOTH** available tensions over a V7 chord.

- E7sus♭9 = E A B D F

The E Phrygian Chord can also be derived from the 2nd mode of D melodic minor (E Dorian ♭2 Mode) for the same reason.

Mode	Key	Notes	Voicing	Avoid Note
E Phrygian	3rd mode of C Major	E F G A B **C** D E	**LH**: E **RH**: F A B E	C
E Dorian b2	2nd mode of D melodic minor	E F G A B **C#** D E	**LH**: E **RH**: F A C# E	None



The only difference between the two scales is that the E Dorian ♭2 has a C# while the E Phrygian has a C♮. To differentiate between the Phrygian Chord derived from the Phrygian mode and the Dorian ♭2 mode, the latter is generally voiced with a C# (as seen above).

Notice also that the E Phrygian Chord is very similar to a Rootless G13 chord – only with an E in the bass. As such, another way of notating Phrygian Chords is G7/E

The Phrygian Chord acts as a substitute for:

- V7 Chords;
- Regular Sus Chords (which themselves are substitutes for V7 chords);
- II-V progressions.

The E Phrygian Chord, being a substitute for an E7, wants to resolve to an AMaj7 chord (down a 5th). Keep in mind that just because a chord is derived **FROM** a particular key, does **NOT** mean you cannot use it **IN** a different key. So just because the E7sus♭9 is derived **FROM** the key of C Major (or D melodic minor), does **NOT** mean you cannot use it over a chord progression **IN** the key of A Major. We will return to this idea in detail in the next module on Jazz Scales.

So now let's do exactly that. Let's use the E Phrygian Chord to substitute the II and/or V chords of a II-V-I in A Major:

ii	V	I
Bm7	**E7**	**AMaj7**
Bm7	Esus♭9	AMaj7
Esus♭9	E7	AMaj7
Esus♭9	Esus♭9	AMaj7

Improvisation

The Phrygian mode is a minor scale (it has a ♭3) and as such you would expect to use it over a minor chord. However, it also has a ♭2 which is one semitone above the root note and therefore an avoid note. As a result, this scale is quite dissonant when played over a m7 chord and thus is generally not used over m7 chords other than the iii chord (the chord from which the mode is derived).

As such, we only use the Phrygian mode to improvise over a:

- Phrygian Chord; or
- iii chord.

For example, if we take the chord progression: | Em7 | D7 | GMaj7 ||
This chord progression is in the key of G Major and the Em7 chord is a vi chord.
Therefore we should **NOT** use the E Phrygian mode to improvise over the Em7.

But, if we take the chord progression: | Em7 | Dm7 | CMaj7 ||
This chord progression is in the key of C Major and the Em7 chord is a iii chord.
Therefore we **CAN** use the E Phrygian mode to improvise over the Em7.

And, if we take the chord progression: | Bm7 | E7sus♭9 | AMaj7 ||
This chord progression is in the key of A Major and the second chord is a Phrygian chord.
Therefore we **CAN** use the E Phrygian mode to improvise over the E7sus♭9.

If the above doesn't make sense, don't worry. We are skipping ahead a bit. We will cover this topic in great detail in the next two modules.

In Practice

You may occasionally (though not often) see Phrygian Chords written out in lead sheets as either:

- E Phryg
- E7sus♭9
- G7/E

However, you can also use them like a regular chord substitution over a V7 chord.

Have a Listen to

- Dolphin Dance ~ Herbie Hancock
- Flamenco Sketches ~ Miles Davis
- Spain ~ Chick Corea

And here is the associated video:

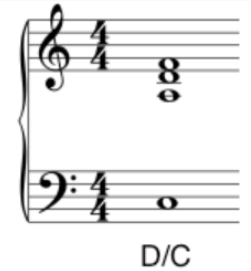
https://www.youtube.com/watch?v=l04hsDh2XB4&feature=emb_logo

11. Slash Chords

Introduction

A **Slash Chord** is (generally) a Major triad over a bass note. Slash Chords are actually quite simple to understand, they are analysed like any other chord – by looking at the notes that comprise them.

Slash Chords are notated as Chord/Note. So a D/C reads 'D slash C' or 'D over C' and is a D Major Triad over a C Bass Note.



Slash Chords exist because:

- They are an easier way to read complex chord notation
    - For example instead of writing CMaj7#9#11 (a complex looking chord), you can just write B/C
- They give a ready-made voicing for the chord
- They give you a ready-made bass-line (often a chromatic bass-line)

The triad can be played in any inversion but generally the 2nd inversion is considered the strongest.

Chord Ambiguity

Slash chords can be a bit ambiguous because they are often missing a few chord tones.

- Some are missing a 3rd and 7th – so can technically be either Major, minor or Dominant
- BUT you have to keep in mind each chord's **available tension**
    - For example, a minor chord cannot have a #11; therefore a Slash Chord that has a #11 must be either Major or Dominant
    - D/C – has no 3rd or 7th so can be either CMaj13#11 or C13#11 (though usually the former) but cannot be Cm13#11

Slash Chords

The majority of Slash Chords use a Major triad on top; however, you can also use other chords, such as:

- Diminished, augmented or minor triads: Gm/C = C9
- 7th chords: Dm7/G = G9sus
    - Including Maj7, min7, V7, Aug7, half dim, full dim chords

These Slash Chords are all analysed in the same way – by looking at the notes they are composed of.

Below is a list of all possible slash chords that use a Major triad with their effective chord name and related scales:

Slash Chord	Notes	Effective Chord	Scale
C/C	C | C E G	CMaj	C Major C Lydian
D♭/C	C | D♭ F A♭	D♭Maj7 Csus♭9♭13 (C7 sub)	C Locrian C Phrygian
D/C	C | D F# A	D7 CMaj13#11 C13#11	C Lydian C Lydian C Lydian Dominant
E♭/C	C | E♭ G B♭	Cm7	C Dorian
E/C	C | E G# B	CMaj7#5	C Lydian Augmented
F/C	C | F A C	FMaj	F Major
G♭/C	C | G♭ B♭ D♭	C7♭5♭9	C Altered C Half/Whole diminished
G/C	C | G B D	CMaj9 CmMaj9	C Major C melodic minor
A♭/C	C | A♭ C E♭	A♭ Major C7#9♭13	A♭ Major C Altered
A/C	C | A C# E	C13♭9	C Half/Whole diminished
B♭/C	C | B♭ D F	C9sus Cm11	C Mixolydian C Dorian
B/C	C | B D# F#	CMaj7#9#11 (CMaj7 sub) Altered Co7 CmMaj7♭5	C Whole/Half diminished

Jazz Theory

We will come across the idea of simplifying chord notation by breaking the chord up into components in future lessons. For the moment, I will just list the different concepts that use this technique:

- **Slash chord**: D/C = 1 Bass note over a triad
- **Upper Structure**: USII = 2 Bass notes (tritone) over a triad
- **Polychord**: $\frac{D}{C}$ = (3 bass notes) Triad over a triad

Have a Listen to

- On Green Dolphin Street ~ Bronisław Kaper
- Skylark ~ Hoagy Carmichael
- Black Orpheus ~ Luiz Bonfá
- Rhythm-a-Ning ~ Thelonious Monk
- Wave ~ Antonio Jobim
- Waltz for Debbie ~ Bill EvansWe will come across the idea of simplifying chord notation by breaking the chord up into components in future lessons. For the moment, I will just list the different concepts that use this technique:
- Slash chord: D/C = 1 Bass note over a triad
- Upper Structure: USII = 2 Bass notes (tritone) over a triad
- Polychord: = (3 bass notes) Triad over a triad
- Have a Listen to
- On Green Dolphin Street ~ Bronisław Kaper
- Skylark ~ Hoagy Carmichael
- Black Orpheus ~ Luiz Bonfá
- Rhythm-a-Ning ~ Thelonious Monk
- Wave ~ Antonio Jobim
- Waltz for Debbie ~ Bill Evans
-

Here is the video that explains the lesson:

https://www.youtube.com/watch?v=pFgFAAfPgFo&feature=emb_logo

12. Harmonic Rhythm

The Harmonic Rhythm is the rate at which the chords change. This influences the strength of a chord progression and even the function of a chord. For example, if we play the following two chord progressions, you'll notice that the bottom one (Chord Progression #2) sounds 'stronger', even though they both use the same chords in the same order. This is because of the Harmonic Rhythm.

Chord Progression #1	A7 - Dm7	G7 - CMaj7	CMaj7
Chord Progression #2	CMaj7 - A7	Dm7 - G7	CMaj7

In 4/4 time, the Harmonic Rhythm occurs in multiples of 2 beats. That is, the chords generally change every:

- ½ bar; or
- Full bar; or
- 2 bars; or
- Even longer for modal and fusion jazz songs where the there are no chord changes at all – you sit on the same chord for the whole song.

In 3/4 time, it occurs in multiples of 3 beats. That is, the chords generally change every:

- full bar; or
- 2 bars.

In Odd Meters, the Harmonic Rhythm can be asymmetrical.

- 5/4 time = 3 + 2 (see the song *Take 5*)
- 7/4 time = 4 + 3

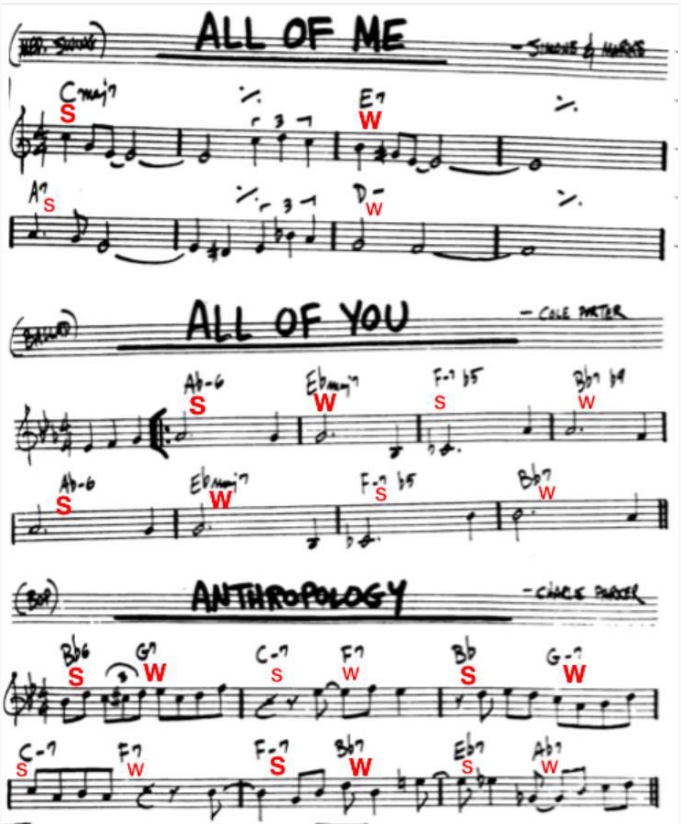
Now, we hear chords in Groups of 4. And we can allocate a relative strength to each of the chords in that Group of 4.

- The first chord is Very Strong (**S**)
- The second chord is Weak (**W**)
- The third chord is Strong (s)
- The fourth chord is Very Weak (w)

where S > s > W > w

This looks as follows:

Harmonic Rhythm	**S - W**	s - w	**S - W**	s - w



Strength of a Chord Progression

As I mentioned before, the Harmonic Rhythm affects how strong a chord progression sounds; or more specifically how strong a cadence sounds. And the most common cadence is a V-I Perfect Cadence.

A V-I cadence sounds stronger if the V7 chord is on a relatively weaker beat compared to the I chord. This is why Chord Progressions #2 above sounds stronger than Chord Progressions #1.

- In Chord Progressions #2, the V7 resolves to a relatively stronger I beat
- In Chord Progressions #1, the V7 resolves to a relatively weaker I beat

Below are a number of chord progressions that all use a vi-ii-V-I pattern but shift the timing around.

- Chord Progressions #2 sound weak because the V7 is on a relatively stronger beat than the I chord; while
- Chord Progressions #1, 3, & 4 all sound strong because the V7 is on a relatively weaker beat than to the I chord.

Chord Progression #1	CMaj7 - A7	Dm7 - **G7**	**CMaj7**
Harmonic Rhythm	**S ------ W**	s ------ **w**	**S ------ (W)**
Chord Progression #2	A7 - Dm7	**G7 - CMaj7**	CMaj7
Harmonic Rhythm	**S ------ W**	**s ------ w**	**S ------ (W)**
Chord Progression #3	Dm7 - **G7**	**CMaj7**	CMaj7
Harmonic Rhythm	**S ------ W**	**s** ------ (w)	**S ------ (W)**
Chord Progression #4	Am7 - Dm7	**G7**	**CMaj7**
Harmonic Rhythm	**S ------ W**	**s** ------ (w)	**S ------ (W)**

Functionality

And in fact, the location of the V7 chord in relation to the Harmonic Rhythm can even affect the 'function' of the V7 chord. We have not discuss **functionality** yet (we will in a future lesson). But very quickly: the usual 'function' of a V7 chord is to resolve down a 5th to the I chord (like a G7 resolving to a C). The function of the G7 (it's whole purposes or point in life) is to move to the C (the Tonic Chord). Being on a weak harmonic rhythm beat facilitates this function.

Now, the first chord of a Blues is usually a V7 chord, but it doesn't have a dominant 'function'. That is, the first chord of a Blues does **NOT** feel like it needs to resolve down a 5th. A Blues in C (starting on C7) doesn't feel like it needs to move to an FMaj7 chord. This is partially because the V7 chord is played on beat 1, which is the strongest harmonic rhythm beat there is – so it doesn't sound like a cadence (it doesn't sound cadential).

For a V7 to sound like it is in a Cadence (i.e. like it wants to move to a I chord) it generally needs to be on a weak harmonic rhythm beat.

We will discuss functionality in much greater detail in future lessons.

II-V-I's

So to extend this further, the most common chord progression in Jazz is a II-V-I. So if the V7 has to be on a weak Harmonic Rhythm beat, the II is usually (though not always) found on a strong Harmonic Rhythm beat. Have a look at Chord Progression #1 & 3 above.

Missing & Extra Chords

When you are analysing a song's harmonic rhythm, look for the general/overall harmonic rhythm of the song – and ignore the outliers. A chord progression can miss a chord or insert an extra chord without destroying the harmonic rhythm.

- Chord progression #5 (below) has a Harmonic Rhythm of 1 bar (despite the extra chord in bar 2):
- Chord progression #6 (below) has a Harmonic Rhythm of 1/2 a bar (despite the missing chord in bar 3):

Also note that different sections of a song (AABA) can have different harmonic rhythms.

- Section A can have a Harmonic Rhythm of 1 bar; while
- Section B can have a Harmonic Rhythm of 2 bars.

Chord Progression #5	DMaj7	Gm7 - (C7)	FMaj7	Am7
Harmonic Rhythm	**S**	**W**	s	w
Chord Progression #6	Em7 - A7	Dm7 - G7	CMaj7	Dm7 - G7
Harmonic Rhythm	**S -------- W**	s -------- w	**S -------- (W)**	s -------- w

In Practice

You'll find that in 95% of Jazz Standards, the V7 is on a relatively weaker harmonic rhythm beat than the I chord. So if you're composing, or reharmonising a jazz song, the harmonic rhythm is something you should keep in mind.

Here's the anticipated video link:

https://www.youtube.com/watch?v=iXR1M9xp6Pk&feature=emb_logo

13. Polychords

Introduction

A polychord is, as the name implies, two or more chords superimposed on top of each other. It's written as two chords, one on top of the other, separated by a horizontal line. For example, a D Major Triad over a CMaj7 Chord would be notated as follows:

$$\frac{\text{D}}{\text{CMaj7}}$$

This notation is similar to that of a slash chord, so it's important you don't confuse the two.

There are two ways of thinking about polychords:

- You can about a polychord as a **single entity** or **single chord**.
- Or you can think about it as **two separate entities** or chords – and so creating a kind of polytonality.

Polychords as a Single Entity

So firstly, if we think about a polychord as a single entity, then we simply look at all the notes that comprise the polychord and infer a proper chord name. See table below for examples.

Using this approach polychords are just another way of notating a chord, which can be simpler to read. When you're sight reading, sometimes it's easier to think about two small chords rather than a single big chord. So you might find it easier to think 'ah, I need to play a A6 in my right hand and a C7 in my left hand', rather than 'I need to play a C13♭9#11 chord'.

Using this approach, when improvising you simply play the scale or arpeggio implied by the actual full chord.

Polychord	Regular Notation	Implied Scale
$\frac{\text{D}}{\text{CMaj7}}$	CMaj13#11	C Lydian
$\frac{\text{Dm7}}{\text{Cm7}}$	Cm13	C Dorian
$\frac{\text{AbMaj7}}{\text{C7}}$	C7#9b13	C Altered
$\frac{\text{A6}}{\text{C7}}$	C13b9#11	C H/W Diminished

Another way of saying this is that you want to pick a scale which contains all (or almost all) the notes of the chord.

- C Lydian mode contains all the notes in the polychord D on CMaj7 – so fits well over the chord.
- C H/W Diminished Scale contains all the notes in the polychord A6 on C7 – so fits well over the chord.

Polychords as Two Entities

The second way of thinking about polychords is as two separate entities which imply a polytonality. Using this approach, when improvising over a polychord you play a scale or arpeggio that fits over each of the two individual chords.

Polychord	Possible Scales
D / CMaj7	D Ionian/Lydian/Arpeggio C Ionian/Lydian/Arpeggio
Dm7 / Cm7	D Dorian C Dorian
AbMaj7 / C7	Ab Lydian C Mixolydian
A6 / C7	A Lydian C Mixolydian

In this way you are outlining each of the tonalities implied by the polychord – thus creating some polytonality. Now, some notes will clash, but that's OK – polytonality is supposed to be a little bit dissonant. We are, after all, superimposing unrelated keys on top of each other.

Notating Polychords

Because polychords are just another way of writing a chord, you don't often find them written out in lead sheets. Lead sheets generally just state a simplified version of the chord. So instead of writing and A♭Maj7 over C7 polychord, a lead sheet will often just write C7#9♭13, or C7 alt, or maybe even just C7, even if the original composer intended or played a polychord. Having said that, you will occasionally find polychords written out in transcriptions of more modern Jazz musicians, like in *Windows* by Chick Corea and *Dolphin Dance* by Herbie Hancock.

Voicing Polychords

Another thing to note is that if you play a polychord exactly as written, then you might end up with numerous doubled notes. As a general voicing rule, you want to try avoid doubling notes. So for example, if you're playing an A♭Maj7 over C7 – you could omit the C & G in the A♭Maj7 chord because they are already played in the C7 chord.

You can also voice the notes in each chord in a polychord in any inversion and in order. They can also overlap. But you still want to generally keep the notes of each chord relatively close together, so that the polychord is still played as two separate chords. Avoid breaking up each individual chord too much.

Modern Harmony

So far, all the above examples have been polychords that only make use of available tensions. But in more 'Modern' or 'Contemporary' Jazz you also find polychords which make use of unavailable tensions and therefore create non-standard, atonal chords. So you could have polychords like:

Polychord	Clash
Db / C	F (unavailable)
Abm / C7	B & Bb E & Bb
Bbm / CMaj7	B & Bb F (unavailable)
B / C	E & D#

These polychords do not obviously describe any standard 'tonal' chord. Neverthless, all the above rules apply here also. You can play a 'scale' comprised of all the notes in the polychord, even if it is not a 'real' scale.

Now, the 'poly' in polychord implies 'many' – not just two. So it is possible to have more than two chords in a polychord. For example you could have a:

Polychord	Notes
G / Ab / D	B D G / Ab C Eb / D F# A

You could even find a polychord in a slash chord – who knows?...Once you hit modern, contemporary, atonal Jazz, anything is possible. But again, they all work just the same way as I've described above. Either analyse all the individual notes separately and try create a regular chord, or play the implied scale for each individual chord.

Conclusion

So when playing a your next song, see if you can insert one or two polychord as a substitute for a regular chord. You can even use one of the more dissonant and interesting ones and see what happens. Try using a B over C polychord in place of a CMaj7 in a ii-V-I in C – and just see how it sounds and how you like it.

Here is the video:

https://www.youtube.com/watch?v=tJASSLCEkrM&feature=emb_logo

14. Modulation

Definition

Modulation occurs when a song changes key for a long period of time (at least 1 phrase or more than 1 bar) and is often, though not always, confirmed with a V-I cadence. Changing key for less than a phrase or for a bar or less is instead called toncisation.

Types of Modulation

Modulations are very common in Jazz. Very few jazz songs stay in one key for the whole song, and some don't stay in one key for more than 2 bars. In Jazz, the most common types of modulation are:

- **Unprepared/Direct modulation** – which modulates to the next key with a I chord.
  Many songs use this kind of modulation, especially between sections. Modal Jazz songs like *So What* and *Impressions* use this type of modulation when they move from the key of D Dorian in part A of the song, to E♭ Dorian in part B.
- **Prepared modulation** – which modulates to the next key by preparing the new I chord with a V or ii-V. So you're given a bit of warning before you encounter the next tonic chord.
  How High the Moon does this with the chord progression:
  GMaj7 | GMaj7 | Gm7 | C7 | FMaj7 | FMaj7 | Fm7 | B♭7 | E♭Maj7 | |
  And changing the chord quality while keeping the same root notes, as is done here, is very common.
- **Pivot Chord modulation** – which uses a diatonic chord common to two keys to pivot from one key to the other, such that the pivot chord is in both keys.
  For example, take the chord progression:
  Dm7 | G7 | CMaj7 | Em7 | A7 | DMaj7 | |
  This looks like a ii-V-I in C followed by a ii-V-I in D, but looking closer we see that the Em7 chord is both in the key of C and D Major, so is arguably in both keys at once.
  The song *Autumn Leaves* does this as it modulated from the key of B♭Maj to its relative Gmin:
  Cm7 | F7 | B♭Maj7 | E♭Maj7 | Am7♭5 | D7 | Gm7 | Gm7 | |
- **Transitional/Chain modulation** – which uses a succession of ii-V's to quickly move through a number of different keys, moving down by a semitone, tone or fifth. Though this could arguable be tonicisation.
  Blues for Alice does this:
  FMaj7 | Em7♭5 A7 | Dm7 G7 | Cm7 F7 | B♭7 | |
  As does *In Your Own Sweet Way*:
  Am7♭5 D7 | Gm7 C7 | Cm7 F7 | B♭6 | |

Modulation to Where?

And most modulations change key to the:

- Relative Major or minor (C Major to A minor)
- Parallel Major or minor (C Major to C minor)
- A key closed related on the circle of fifths and so sharing many notes in common (C Major [no sharps of flats] to F Major [one flat] or G Major [one sharp])

There are other types of modulation – like common-tone modulation, enharmonic modulation, chromatic-tone modulation – but these aren't really common to Jazz, they are more applicable to Classical.

Tonicisation

If the key changes for a short period of time, before concluding that a modulation has taken place, always look for:

- Secondary dominants
- Borrowed chords
- Chord substitution
- Passing chords

As these are often a better explanation for chords in a different key – especially if there is no confirming V-I cadence.

An Example

And when analysing a chord progression, always look at the chords in an entire section, as this will give you more context as to what is happening. And keep in mind that there are many ways to analyse the same chord progression. And some are genuinely difficult to analyse. Look at the Jazz Standard: *Take the A Train*. Section A of the chord progression goes as follows:

Take the A Train (Section A)

1	2	3	4
CMaj7	CMaj7	D7	D7
5	6	7	8
Dm7	G7	CMaj7	CMaj7

Looking at the first 4 bars, this looks like a simple IV-V movement in G. The melody even start on the note G. But looking at the next 4 bars we see that we are actually in the key of C. We never confirm the cadence by resolving to the GMaj7. As such, I think it is better to analyse the D7 as a:

- II7 borrowed chord from the Lydian Mode; or
- V/V Secondary Dominant resolving to the G7 but with a ii passing chord inserted before it to delay the cadence and create a ii-V movement.

So I would say this whole section is in the key of C with a borrowed chord or secondary dominant creating a delayed cadence. But you're welcome to disagree.

Here is the video you require:

https://www.youtube.com/watch?v=VbPhYpJPLmA&feature=emb_logo

Jazz Scales

As mentioned in the last module on Jazz Chords; Jazz is almost always 'homophonic'. All this means is that Jazz consists of two parts:

1. Jazz Chords (Harmony); and
2. Improvisation (Melody).

To facilitate teaching, the above two facets of Jazz are further subdivided into Theory and Practice components. We will first learn the Theory (Jazz Chords and Jazz Scales) and then learn how to apply the theory in Practice (with Jazz Chord Voicings and Jazz Improvisation).

	Theory	Practice
Harmony	Jazz Chords	Jazz Chord Voicings
Melody	Jazz Scales	Jazz Improvisation

In this module we look at Jazz Scales – which are used in improvisation. In these lessons we will discuss:

1. The Chord-Scale System;
2. Why you can use multiple scales over the same chord;
3. Melodic minor and Altered scales;
4. Diminished Scale;
5. Wholetone Scale;
6. much more.

And once we learn some Jazz Scales, we will go on to see how we can apply them in Jazz Improvisation.

15. The Chord-Scale System (How Chords And Scales Are Related)

Introduction

In the last module we learned all about **Jazz Chords**. We discussed 7th chords, and how to add tension (9th, 11th, & 13th) to create 13th chords. Now we move onto **Jazz Scales**. In this lesson we will learn **how chords and scales are related** through the **Chord-Scale System** and discover that chords and scales are actually the same thing. But first, let's have a quick refresher.

Scales

A **scale** is simply some subset of the 12 notes of an octave, and have two components:

- the notes they are comprised of; and
- a tonal centre (or root note).

The (diatonic) Major Scale has 7 notes, but there's no reason to restrict ourselves to only 7 notes. Scales can have fewer or more notes (all the way up to the Chromatic Scale with 12 notes).

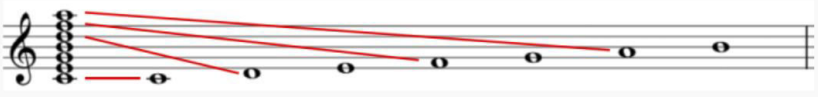
If you keep all the notes of a scale the same but change the tonal centre, you create a new scale or **mode**. So, a mode is a scale created by establishing a new root note within a pre-existing scale. Modes are just a different way of thinking about scales and keys. Using modes allows us to allocate an individual mode/scale (I will use the two words interchangeably) to every single chord in a progression. In Jazz, this is a very convenient way of thinking, as we will see in a moment.

This is the basis of and the idea behind the **Chord-Scale System**. Every single chord in a progression is allocated a particular scale which can be used to improvise over that particular chord. Of course, there are many different scales you can use over a single chord, but we will get to that soon enough. So technically, when improvising, every time a we change chords we also change scales.

Chord-Scale System

Scales and chords are interrelated. There are two sides of the same coin.

- A scale is a horizontal representation of a particular collection of notes and is built up in 2nds;
- A chord is a vertical representation of that same collection of notes and is built in 3rds.



So, for example,

- If we take all the white notes and we go up in 2nds (or in steps), then we have the C major scale (C D E F G A B); and
- If we take all the white notes again, but we go up in 3rds, then we have the CMaj13 (C E G B D F A) *(ignore the fact that the ♮11 is not an available tension for the moment)*.

Similarly,

- If we take all the white notes except for B♭ and we go up in 2nds, starting and finishing on the C (C D E F G A B♭), then we have C Mixolydian (or F major but starting and finishing on the C); and
- If we take those exact same notes and go up in 3rds, we have C13 (C E G B♭ D F A) *(again, ignore the fact that the ♮11 is not an available tension for the moment)*.

Or again,

- If we take all the white notes except for the note F# and we go up in 2nds, starting and finishing on the C (C D E F# G A B), then we have C Lydian (or G major but starting and finishing on the C); and
- If we take those exact same notes and go up in 3rds, we have CMaj13#11 (C E G B D F# A).

Right, so the

- C Major Scale has all the same notes as a CMaj13 chord;
- C Mixolydian scale has all the same notes as a C13 chord;
- C Lydian Scale has all the same notes as a CMaj13#11 chord.

So, then these are the scales that you would use to improvise over these chords.

Below is a table of all the Major and Melodic Minor modes and their equivalent chords (plus two extra scales)

Mode	Chord	1	3	5	7	9	11	13
Major Scale Modes								
C Ionian	CMaj13	C	E	G	B	D	F	A
C Dorian	Cm13	C	E♭	G	B♭	D	F	A
C Phrygian	Cm7♭9♭13	C	E♭	G	B♭	D♭	F	A♭
C Lydian	CMaj13#11	C	E	G	B	D	F#	A
C Mixolydian	C13	C	E	G	B♭	D	F	A
C Aeolian	Cm11♭13	C	E♭	G	B♭	D	F	A♭
C Locrian	Cm7♭5♭9♭13	C	E♭	G♭	B♭	D♭	F	A♭

Melodic Minor Modes								
C Melodic minor	CmMaj7	C	E♭	G	B	D	F	A
C Phrygian ♮6	Cm13♭9	C	E♭	G	B♭	D♭	F	A
C Lydian Augmented	CMaj13#5#11	C	E	G#	B	D	F#	A
C Lydian Dominant	C13#11	C	E	G	B♭	D	F#	A
C Mixolydian b6	C11♭13	C	E	G	B♭	D	F	A♭
C Half-diminished	Cm7♭5♭13	C	E♭	G♭	B♭	D	F	A♭
C Altered	C7♭5♭9#9♭13 (C7alt)	C	F♭ (E)	G♭	B♭	D♭	E♭ (#9)	A♭
Other Scales								
C Harmonic minor	CmMaj7b13	C	E♭	G	B	D	F	A♭
???	C7#5♭9#11♭13	C	E	G#	B♭	D♭	F#	A♭

So a **13th Chord is its own diatonic scale**. But this means that chords NOT extended all the way out to the 13th are slightly ambiguous because they are missing a few chord (and therefore scale) notes. And the key that they are in depends on the previous and subsequent chords in the progression. For this reason it is possible to play multiple scales over the same chord (if the chord is not a 13th chord). For example:

- Because a CMaj7 chord (C E G B) does NOT have an F in it, you can use the following two scales to improvise over it:
    - C Ionian (**C** D **E** F **G** A **B**); or
    - C Lydian (**C** D **E** F# **G** A **B**).

Notice that both scales contain all the notes that comprise the CMaj7 chord. Because the CMaj7 does not have a 9th, 11th or 13th we do not know what key it is in, and therefore we can use both scales over this chord. When thinking in terms of keys (rather than modes) we can say that the CMaj7 chord can be derived from both the key of C Major and G Major (C Lydian).

Of course, if we look at the whole chord progression and see that the CMaj7 chord is preceded by a G7 chord, we can pretty comfortably deduce that the CMaj7 chord is in the key of C Major (rather than G Major). But that doesn't mean that we cannot use the C Lydian mode over the CMaj7 chord. We absolutely can! The Chord-Scale System looks at individual chords in isolation and allocates scales to each individual chord. We do **NOT** need to know what key a particular chord is in, in order to choose a scale to play over that chord. In the above example, it doesn't matter what key the CMaj7 chord is in, we can use both scales to improvise over it.

Indeed, it's often preferable to choose the scale outside the key of the chord progression in order to give a more harmonically complex and jazzy sound.

If we had the chord progression: | G7 | CMaj7 ||

Many Jazz musicians would use the C Lydian mode over the CMaj7 chord precisely because the chord progression is **NOT** in the key of C Lydian (G Major). *(Also, the Lydian mode has fewer avoid notes than the Ionian mode, but we will discuss this further in future lessons).*

Similarly:

- You could use the following scales over a Cm7 chord:
  - C Dorian (**C** D **E♭** F **G** A **B♭**)
  - C Aeolian (**C** D **E♭** F **G** A♭ **B♭**)
- You could use the following scales over a C7 chord:
  - C Mixolydian (**C** D **E** F **G** A **B♭**)
  - C Lydian Dominant (**C** D **E** F# **G** A **B♭**)
  - C Mixolydian♭6 (**C** D **E** F **G** A♭ **B♭**)

Conclusion

And so hopefully you now see, chords and scales are really the same thing. They are both comprised of the same limited number of notes. As I have mentioned in the past, all music theory can be broken down into notes and intervals. And things like scales and chords are just abstractions from the 12 notes of the octave.

While this begins to explain why you can use multiple scales over the same chord, this only scrapes the surface. In the next lesson we will explore this topic in much more detail.

Here is the well anticipated video link:

https://www.youtube.com/watch?v=X-ESKVbWWIk&feature=emb_logo

16. Why You Can Use Multiple Scales Over The Same Chord

Introduction

In Jazz, it's possible to use many different scales over a single chord. This is one of the things that makes Jazz interesting to listen to. You don't just hear a plain old C Major scale over a CMaj7 chord, which is a bit unimaginative. Instead you might hear a C Lydian Augmented scale (we will cover this scale in the next lesson), which is far more enticing.

But why can we use multiple scales over the same chord? And how do we pick those scales? If the chord progression is in a single key, how is it possible to use different scales from different keys?

Playing IN and FROM a key

To answer these question we must understand the difference between playing **IN** a key and playing **FROM** a key – a very important distinction.

Generally, songs are written IN a major or natural minor key. But you can play scales and chords FROM a different key.

Take the chord CMaj7. It can be derived both FROM the key of C Major and G Major (C Lydian). Another way of saying this is that all the notes in the chord CMaj7 can be found in both the C Major Scale and the G Major Scale. Therefore you can use both scales to improvise over this chord.

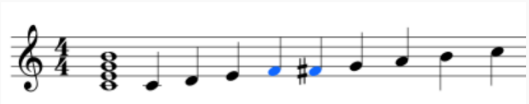
Scale	Notes	CMaj7 Chord	Comment
C Major	**C** D **E** F **G** A **B**	I	Notes in CMaj7 chord are all found in both the C Major and G major Scales
G Major	**G** A **B** **C** D **E** F#	IV	

Why You Can Use Multiple Scales Over the Same Chord

So that means, when improvising, **you can use any scale over a particular chord, as long as that scale has all the notes found in that particular chord**.

This works even if the whole progression is in a particular key. For example, if we take a II-V-I in C Major:

Comments	II	V	I
- Chord Progression is IN the key of C Major - All chord are FROM the key of C Major	Dm7	G7	CMaj7
- Chord Progression is IN the key of C Major - II-V are FROM the key of C Aeolian	Dm7♭5	Gm7	CMaj7



- Even though the top chord progression is IN the key of C Major, we can still use the C Lydian scale (G Major) to improvise over the CMaj7 chord.
- We encountered a similar idea when we discussed **Modal Interchange**. Even though a chord progression can be IN the key of C Major, we can still use (borrow) chords FROM a different key. In the case of the bottom chord progression, we borrowed the II-V chords from the key of C Aeolian (E♭ Major).

But using scales over chords is actually a little bit more complicated than this.

Omitting and Changing Notes

We have already discuss (many times) that the most important notes of a chord are the **Guide Tones** (3rd & 7th) and to a lesser extent the root (which establishes tonality). The 5th is dispensable. This means you can play any scale over a chord, if that scale contains the root, 3rd and 7th of the chord. For example, you can use any scale with a C, E and B in it over a CMaj7 chord, even if it doesn't contain a G.

There are two further complication:

- It's possible to omit notes; and
- It's possible to treat notes enharmonically (i.e. as a different chord degree).

If a scale has **BOTH** a minor 3rd and a Major 3rd – the Major 3rd is the *True 3rd* and the minor 3rd is actually a disguised *#9*. And it is possible for a scale to **omit** the 3rd or 7th of a chord and yet still work over that chord – the 3rd or 7th is implied by the harmony. Some examples will make this clearer.

Let's take the C7 chord and see what scales we can use to improvise over it.

Scale	Degrees	Comments
C Dominant Bebop scale	**1** 2 **3** 4 5 6 **♭7** 7	Maj 7 used as passing note
Whole-tone scale	**1** 2 **3** ♭5 ♭6 **♭7**	1, 3 & ♭7
Altered scale	**1** ♭2 ♭3 **♭4** ♭5 ♭6 **♭7**	♭3 = #2 = #9 ♭4 = 3
Blues scale	**1** ♭3 4 #4 5 **♭7**	♭3 = #2 = #9 Omits 3

- The C Dominant Bebop scale fits perfectly over a C7 chord because it starts on the root (C) and has the 3 and ♭7. The ♮7 acts only as a passing note.
- The C Wholetone scale fits perfectly over a C7 chord because it starts on the root (C) and has the 3 and ♭7.
- The C Altered scale also fits over a C7 chord even though it has a ♭3 (E♭). This is because the ♭3 acts as a #9 (D#) and the *True 3rd* is the ♭4 (E). So the♭3 is enharmonically the same as a #9 and the♭4 is enharmonically the same as a♮3. So actually, this scale fits rather well over a C7 chord.
- The C Blues scale also fits over a C7 chord. The♭3 is treated as a #9 and the♮3 is omitted. The♮3 is implied by the chord C7. So then the scale has an implied♮3 and a ♭7, so fits over C7 perfectly well.

(Aside #1: The ♮3 always overrides the minor ♭3 and turns it into a #9. This generally only applies to V7 chords and works because the #9 is an available tension over a C7 chord).

(Aside #2: This idea does NOT apply to 7ths. You cannot turn a♭7 into a #6 or #13. This is because a #13 is not an available tension over any chord).

Conclusion

Over the next few lessons we will cover a number of commonly used Jazz Scales. We will learn how they are derived and the chords they are associated with. But now we know why we can use many different scales over a single chord, and this knowledge will help us analyse the upcoming scales. In the meantime, below is a selection of scales that can be used over particular chords, precisely because they share the root, 3rd and 7th of the chord.

Chord	Possible Scale	Degrees	From C
Major 7 (any scale with Maj 3 & Maj 7)	Ionian	**1** 2 **3** 4 5 6 **7**	**C** D **E** F G A **B**
	Lydian	**1** 2 **3** #4 5 6 **7**	**C** D **E** F# G A **B**
	Lydian Augmented	**1** 2 **3** #4 #5 6 **7**	**C** D **E** F# G# A **B**
	Major Bebop Scale	**1** 2 **3** 4 5 ♭6 6 **7**	**C** D **E** F G A♭ A **B**
Minor 7 (any scale with min 3 & min 7)	Aeolian	**1** 2 **♭3** 4 5 ♭6 **♭7**	**C**D **E♭** F G A♭ **B♭**
	Dorian	**1** 2 **♭3** 4 5 6 **♭7**	**C** D **E♭** F G A **B♭**
	Phrygian	**1** ♭2 **♭3** 4 5 ♭6 **♭7**	**C** D♭ **E♭** F G A♭ **B♭**
Half Diminished (any scale with min 3, ♭5 & min 7)	Locrian	**1** ♭2 **♭3** 4 **♭5** ♭6 **♭7**	**C** D♭ **E♭** F **G♭** A♭ **B♭**
	Half-diminished	**1** 2 **♭3** 4 **♭5** ♭6 **♭7**	**C** D **E♭** F **G♭** A♭ **B♭**
(any scale with Maj 3 & min 7)	Lydian Dominant	**1** 2 **3** #4 5 6 **♭7**	**C** D **E** F# G A **B♭**
	Mixolydian b6 Scale	**1** 2 **3** 4 5 ♭6 **♭7**	**C** D **E** F G A♭ **B♭**
	Altered	**1** ♭2 ♭3 **♭4** ♭5 ♭6 **♭7**	**C** D♭ E♭ **F♭** G♭ A♭ **B♭**
	Dorian ♭2	**1** ♭2 ♭3 4 5 6 **♭7**	**C** D♭ E♭ F G A **B♭**
	Major Pentatonic	**1** 2 **3** 5 6	**C** D **E** G A
	Blues	**1** ♭3 4 #4 5 **♭7**	**C** E♭ F F# G **B♭**
	5th mode of harm min.	**1** ♭2 **3** 4 5 ♭6 **♭7**	**C** D♭ **E** F G A♭ **B♭**
	5th mode of harm Maj.	**1** ♭2 **3** 4 5 6 **♭7**	**C** D♭ **E** F G A **B♭**
	Dominant Bebop	**1** 2 **3** 4 5 6 **♭7** 7	**C** D **E**F G A **B♭** B
	Dominant Diminished	**1** ♭2 #2 **3** #4 5 6 **♭7**	**C** D♭ D# **E** F# G A **B♭**
	Whole Tone	**1** 2 **3**#4 #5 **♭7**	**C** D **E** G♭ A♭ **B♭**

Here is the video:

https://www.youtube.com/watch?v=7NW8XB0_FyE&feature=emb_logo

17. Melodic Minor Modes and Altered Scale

Introduction

As we have already learned, a **Mode** is a scale created by establishing a new root note within a pre-existing scale. We are already familiar with the Modes of the Major Scale, but we can create modes from any pre-existing scale. In Jazz, the modes of the melodic minor scale are very widely used. The melodic minor scale is exactly the same as the Major scale except that it has a ♭3.

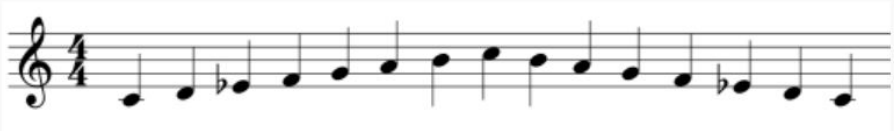
All the Melodic Minor Modes are detailed in the below table along with their related chords.

Melodic Minor Modes

#	Mode Name	Degrees	Notes from C	Chord	Avoid Notes	Comments
I	Jazz Melodic Minor	1 2 ♭3 4 5 6 7	C D E♭ F G A B	CmMaj7	None	Chord not found in Major harmony
II	Dorian ♭2	1 ♭2 ♭3 4 5 6 ♭7	D E♭ F G A B C	**Dm7**	**E♭**	**Not used**
				Dsus♭9	None	V7 of G Major
III	Lydian Augmented	1 2 3 #4 #5 6 7	E♭ F G A B C D	E♭Maj7#5	None (Maybe C)	Already dissonant
IV	Lydian Dominant	1 2 3 #4 5 6 ♭7	F G A B C D E♭	F7#11	None	None
V	Mixolydian ♭6	1 2 3 4 5 ♭6 ♭7	G A B C D E♭ F	**G7♭13**	**C**	**Not used**
				CmMaj7/G	None	Rarely used
VI	Half-Diminished	1 2 ♭3 4 ♭5 ♭6 ♭7	A B C D E♭ F G	Am7♭5	None	None
VII	Altered Scale	1 ♭2 ♭3 ♭4 ♭5 ♭6 ♭7	B C D E♭ F G A	**Bm7♭5**	**C & E♭**	**Not used**
				B7alt	None	Used often

Note the following:

- The first mode of the melodic minor scale is…the melodic minor scale. In Classical music, you play the 'true' melodic minor scale ascending and the natural minor scale descending. But in Jazz, we play the 'true' melodic minor scale both up and down, and call it the **Jazz Melodic Minor Scale**. The associated chord is the CmMaj7 chord – which is not found in Major scale harmony



- The Dorian ♭2 mode is generally reserved for the **Phrygian Chord** (D7sus♭9). While it can be played over a m7 chord, the ♭2 would be an **avoid note**.
- The Lydian Augmented mode ('Lydian' because of the #4 and 'Augmented' because of the #5) is played over a Maj7#5 chord, but can also be played over a regular Maj7 chord.
- The Lydian Dominant mode ('Lydian' because of the #4 and 'Dominant' because of the♭7) is played over a V7#11 chord, but can also be played over a regular V7 chord.
- The Mixolydian ♭6 mode is rarely used in Jazz. It can be used over a V7♭13 chord, but is generally reserved for a ImMaj7/V chord.
- The Half-diminished mode is used over a half-diminished chord. It is an oft-used alternative to the Locrian mode.
- The Altered mode is used over a V7alt chord (or just a regular V7). This is a VERY widely used scale that's worth exploring in a little bit more depth.

Altered Scale

One of the most widely used scales in Jazz is the **Altered Scale**. It is played over a V7 chord and is an interesting scale because every note that can be altered, is altered. Below is a comparison of the Altered Scale to the standard Mixolydian Scale:

Degree	1	2	3	4	5	6	♭7
C Mixolydian (F Major)	C	D	E	F	G	A	B♭
Degree	1	♭9	#9	3	♭5 (#11)	♭13 (#5)	♭7
Altered Scale	C	D♭	E♭ (D#)	F♭ (E)	G♭ (F#)	A♭ (G#)	B♭

- You can't alter root, 3rd or 7th without changing chord tonality or quality – but you can alter every other note
- Notice there is no ♮5th

The full associated chord is C7♭9#9#11♭13, but this is quite a mouthful so the chord is usually just shortened to C7alt. This just means 'Play an altered C7 chord'. It can be any altered C7 chord – C7♭9 or C7#9#11 or C7♭9♭13 or anything else – but a good proxy chord is C7#9♭13.

Avoid Notes

It's also generally accepted that the melodic minor scale modes do NOT have avoid notes. This means you can all the notes of the scale over any of the chords, and that all the chord voicings are completely interchangeable. That is, the CmMaj7 chord (C, E♭, G, B) can be used as a voicing for any chord in the key of C melodic minor just by changing the bass note.

As we have learned already, in order to play a chord we have to include, at a minimum, the 3rd and 7th of that chord (the root and the 5th can be omitted). We also have to omit any 'unavailable tensions' or 'avoid notes'.

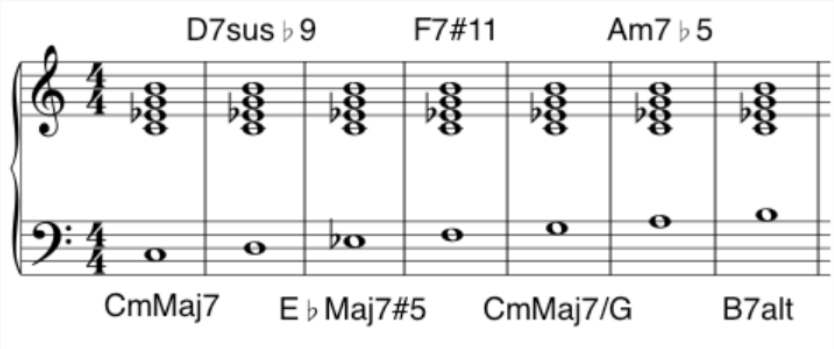
For example, the only reason an FMaj9#11 (F A C E G B) cannot be a G13 (G B D F A E) is because the FMaj7 contains a 'C', which is an unavailable tension or avoid note from the point of view (POV) of the G7. Otherwise the two chords share many notes in common.

Chord Voicing	F	A	C	E	G	B
POV of FMaj7	1	3	5	7	9	#11
POV of G7	7	9	♮11 **(Avoid Note)**	13	1	3

Interestingly, if you omit the 5th from both chords (which is allowed), you get the exact same notes. So, a 5th-less FMaj9#11 = a 5th-less G13.

- FMaj9#11 (no 5th) = F A ( ) E G B
- G13 (no 5th, no 11th) = G B ( ) F A ( ) E

This means, the only reason one chord cannot be a different chord is because avoid notes and guide tones exist. But if you have no avoid notes (like the melodic minor scale), then every chord can be any other chord in that key.



This means when you are playing in melodic minor harmony, you don't play the chord individually so much as you play the whole key all at once.

V7 Chords

Also notice that two V7 chords can be derived from the melodic minor scale.

- IV – F7#11
- VII – B7alt

These V7 chords are a tritone apart from each other – they can therefore be tritone substituted for each other.

Scales over Chords

So, summarising what we know so far, we can play the following Major and Melodic Minor modes over the following chords:

- **CMaj7**
  - C Ionian = C D E F G A B
  - C Lydian = C D E F# G A B
  - C Lydian Augmented = C D E F# G# A B
- **Cm7**
  - C Dorian = C D E♭ F G A B♭
  - C Aeolian = C D E♭ F G A♭ B♭
- **CmMaj7**
  - C melodic minor = C D E♭ F G A B
- **C7**
  - C Mixolydian = C D E F G A B♭
  - C Lydian Dominant = C D E F# G A B♭
  - Altered Scale = C D♭ E♭ F♭ G♭ A♭ B♭
  - C Mixolydian♭6 = C D E F G A♭ B♭
- **Cm7♭5**
  - C Locrian = C D♭ E♭ F G♭ A♭ B♭
  - C Half-Diminished = C D E♭ F G♭ A♭ B♭

So, for example, if we had the below chord progression, we could improvise over it using the following scales (the related keys are also listed):

Chord Progression	Bm7♭5	G7	CMaj7
Major Modes	B Locrian	G Mixolydian	C Ionian
Major Key	C Major		
Melodic Minor Modes	B Half-diminished	G Altered	C Lydian Augmented
Melodic minor Key	D melodic minor	A♭ melodic minor	A melodic minor

Here are two videos:

https://www.youtube.com/watch?v=_UMejazqJqo&feature=emb_logo

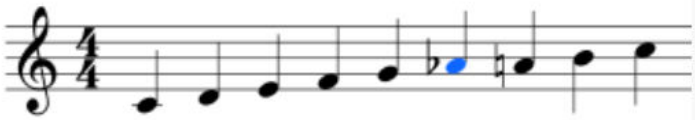
https://www.youtube.com/watch?v=tMdes5dOxt8&feature=emb_logo

18. Bebop Scales

Introduction

Bebop Scales are just your regular scales and modes – such as the Major, melodic minor, Dorian and Mixolydian – but with an added chromatic note. So:

- **Bebop scales = Traditional scales + 1 chromatic passing note**



Bebop Scales

The most commonly used Bebop Scales are listed below.

Chord	Name	Notes from C	Degrees	Passing note
ii	Bebop Dorian	D E F **F#** G A B C	1 2 ♭3 **♭4** 4 5 6 ♭7	b/w ♭3 & 4
V	Bebop Dominant	G A B C D E F **F#**	1 2 3 4 5 6 ♭7 **7**	b/w ♭7 & 1
I	Bebop Major	C D E F G **A♭** A B	1 2 3 4 5 **♭6** 6 7	b/w 5 & 6
i	Bebop melodic minor	C D E♭ F G **A♭** A B	1 2 ♭3 4 5 **♭6** 6 7	b/w 5 & 6

First, a few generalisations:

- Most Jazz Standards are in 4/4 time;
- Most improvised scalar runs are in quavers (therefore 8 notes per bar);
- Notes played ON the beat sound stronger than notes played OFF the beat;
- A diatonic scale has 7 notes (*this is just a fact rather than a generalisation*)

By adding an extra chromatic note, Bebop scales are able to:

- Better emphasise the harmonically important notes (**Chords Tones**) during descending scalar runs, by playing the chord tones ON the beat.
- Better align the number of notes in the scale to the number of beats in a bar. The scale 'fits' better over a 4/4 time signature because there are 8 quavers per bar & 8 notes per scale.

For example, let's compare a Mixolydian scalar run to a Bebop Dominant scalar run:

G Mixolydian															
Ascending (in quavers)								Descending (in quavers)							
Beat		**Beat**		**Beat**		**Beat**		**Beat**		**Beat**		**Beat**		**Beat**	
↓		↓		↓		↓		↓		↓		↓		↓	
G	A	**B**	C	**D**	E	F	**G**	**G**	**F**	E	**D**	C	**B**	A	**G**
G Bebop Dominant															
Ascending (in quavers)								Descending (in quavers)							
Beat		**Beat**		**Beat**		**Beat**		**Beat**		**Beat**		**Beat**		**Beat**	
↓		↓		↓		↓		↓		↓		↓		↓	
G	A	**B**	C	**D**	E	**F**	F#	**G**	F#	**F**	E	**D**	C	**B**	A

Pick Your Own

Bebop scales were 'created' (or at least 'named') by a Jazz composer called David Baker. He called them this because he noticed many Jazz musicians from the Bebop Era (Charlie Parker, Dizzy Gillespie, Charlie Christian, Bud Powell, etc.) inserted an extra chromatic passing note when playing scalar runs. He settled on the above chromatic notes and created the above scales. However, there's no reason to restrict yourself to these particular extra chromatic passing notes. In theory, you can **add any additional chromatic passing note** to a standard 7 note (Heptatonic) scale and create your own quasi-'Bebop Scale'.

Here's the video link:

https://www.youtube.com/watch?v=Ym1YTlAO0tc&feature=emb_logo

19. Wholetone Scale

Introduction

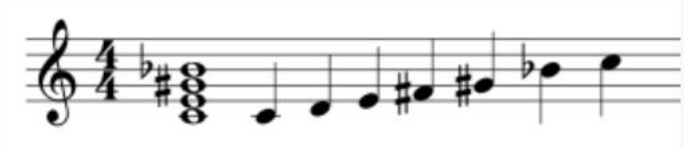
The **Wholetone Scale**, as the name implies, is made up exclusively from whole tones. Because of this there are only 2 distinct wholetone scales (i.e. scales with a unique collection notes) and then the various modes of those two scales:

- G Wholetone Scale = G A B C# D# F
- C Wholetone Scale = C D E F# G# A#

The chord derived from the Wholetone scale is the V7#5 chord, which can be extended to a V9#5#11.

- G Wholetone Chord = G7#5 (G B D# F)
- C Wholetone Chord = C7#5 (C E G# B♭)

But the scale can be used over any V7 Chord.



The Scale and/or Chord can be inserted over or in place of a V7 chord. For example:

Chord Prog	Dm7	G7 (or G7#5)	CMaj7
Scales for Improvisation	D Dorian	G Wholetone	C Ionian

Wholetone Scale Symmetry

This scale is a **Symmetrical Scale**. A symmetrical scale is one that equally divides the octave into fixed intervals. Put another way, it is a scale that is built out of repeating intervals.

- The intervals between the notes of a Major Scale are = T T st T T T st
- The intervals between the notes of a Wholetone Scale are = T T T T T T

Where T = Tone; and st = semitone

Notice the Wholetone scale is the same up as it is down (a kind of scalae palindrome), while the Major scale is not. This is what gives the scale it's symmetry.

The interesting thing about symmetrical scales is that they are 'non-functional'. That is, they don't sound like they have a definitive root note – like the Major Scale. Because the Wholetone scale is constructed entirely from whole tones, each 'mode' of the scale sounds exactly the same as all the others.

- G Wholetone sounds like A Wholetone sounds like B Wholetone sounds like…etc.
- Whereas, C Major sounds very different to D Dorian which sounds very different to E Phrygian which sounds…etc.

This means the Wholetone scale sounds much more ambiguous and atonal compared to the Major Scale. We will learn much more about functionality in future lessons.

This Wholetone scale is quite simple and has no avoid notes. It also sounds a little exotic (because it is a non-functional symmetrical scale) but can be a little boring if overused (again, because it is a symmetrical scale).

No Avoid Notes and Interchangeability of Chords

Like the melodic minor scale, the Wholetone Scale does **NOT** have avoid notes. This means that all the chords are interchangeable. Notice that all the following chords have the same notes:

Chord	F	A	C#	D#	G	B
F9#5#11	1	3	#5	♭7	9	#11
G9#5#11	♭7	9	#11	#5	1	3
A9#5#11	#5	1	3	#11	♭7	9
B9#5#11	#11	♭7	9	3	#5	1
C#9#5#11	3	#5	1	9	#11	♭7
D#9#5#11	9	#11	♭7	1	3	#5

So all these chords are equivalent.

Have a Listen To

The below songs make use of the Wholetone scale. Have a listen.

- Juju ~ Wayne Shorter
- In a Mist ~ Bix Beiderbecke
- Our Man Higgins ~ Lee Morgan
- One Down, One Up ~ John Coltrane
- Queer Notions ~ Fletcher Henderson
- Every Thelonious Monk improvisation

In the next lesson we learn about the **Diminished Scale**, which is another symmetrical scale.

https://www.youtube.com/watch?v=XDoA88inCfw&feature=emb_logo

20. Diminished Scale & Double Diminished Chord

The Diminished Chord

The diminished chord is built out of minor 3rds (3 semitones). Because an octave is 12 semitones, stacking further minor 3rd above the top note of a diminished chord just repeats the same existing notes (D → F → A♭ → B → D → F → A♭ → B → D → etc.). Because of this the diminished chord repeats at intervals of minor thirds. This means there are only 3 unique diminished chords:

- Cdim7 = E♭dim7 = G♭dim7 = Adim7
- D♭dim7 = Edim7 = Gdim7 = B♭dim7
- Ddim7 = Fdim7 = A♭dim7 = Bdim7

The Diminished Scale

The Diminished Scale is:

- An Octatonic Scale (i.e. it has 8 notes)
- A Symmetrical Scale (i.e. the intervals repeat in a pattern) Because it is a symmetrical scale (and much like the diminished chord) there are only three unique diminished scales:

- C = E♭ = G♭ = A diminished scale
- D♭ = E = G = B♭ diminished scale
- D = F = A♭ = B diminished scale

There are, however, two possible modes of each diminished scale. And they get their names from the interval pattern that create them. These are:

- The **Half-Whole (H/W) Diminished Scale**
  - Interval Pattern: semitone – tone – semitone – tone – …etc.
  - Used over a V7 chord
- The **Whole-Half (W/H) Diminished Scale**
  - Interval Pattern: tone – semitone – tone – semitone – …etc.
  - Used over a Diminished chord

Scale	Chord	Notes & Degrees							
C H/W Dim	C13b9#9#11 OR C7b9	C	D♭	D#	E	F#	G	A	B♭
		1	♭9	#9	3	#11	5	13	♭7
D♭ W/H Dim	D♭dim7	D♭	D#	E	F#	G	A	B♭	C
		1	+ 1 tone	♭3	+ 1 tone	♭5	+ 1 tone	♭♭7	+ 1 tone

Notice that:

- The C H/W = D♭W/H Diminished Scales (i.e. they are modes);
- The chord from the C H/W Diminished Scale is a C7♭9 (C E G B♭ D♭);
- The chord from the D♭W/H Diminished Scale is a D♭dim7 (D♭ E G B♭)
- D♭dim7 = Rootless C7♭9.

The H/W Diminished Scale and/or associated chord can be substituted in place of a V7 chord. While, the Whole-Half Diminished Scale is used over a diminished chord. For example:

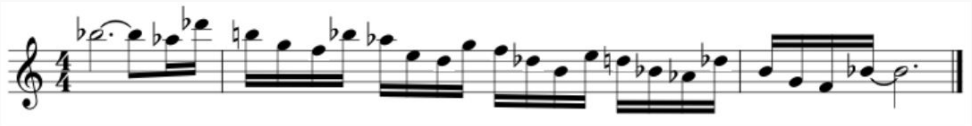
Chord Progression	D♭o7	Gm7	C7 (or C7♭9)	FMaj7
Scales	D♭ W/H Diminished	G Dorian	C H/W Diminished	F Ionian

Now, remember that the diminished chord and scale repeat at intervals of minor 3rds. This means that:

- C H/W = E♭ H/W = G♭ H/W = A H/W = D♭ W/H = E W/H = G W/H = B♭ W/H

Diminished Lick

Below is a classic diminished lick in B♭ H/W Diminished Scale. Try it out and listen to how it sounds.



Associated Chords

Just like with regular diatonic scales, we can assign each note in the diminished scale an associated chord. This gives us:

Scale	Scale Chords							
C H/W Diminished	C7♭9	D♭o7	D#7♭9	Eo7	F#7♭9	Go7	A7♭9	B♭o7

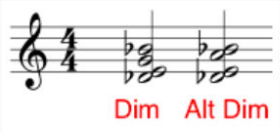
No Avoid Notes and Interchangeability of Chords

Just like the Melodic Minor and Wholetone scale, the Diminished Scale has no avoid notes. This means that all of the above chords are completely interchangeable. Playing a D♭dim7 chord is effectively like playing all eight of the above chords at once.

Chord	D♭	E	G	B♭
D♭o7 = Eo7 = Go7 = B♭o7	Diminished Chord			
C7♭9	♭9	3	5	♭7
D#7♭9	♭7	♭9	3	5
F#7♭9	5	♭7	♭9	3
A7♭9	3	5	♭7	♭9

Altered Diminished Chord

Interestingly, if you move any note in a diminished chord up a whole-step, you still remain within the Diminished Scale – so you still have a diminished chord. I will call this the **Altered Diminished Chord**. You can substitute this new note in whenever you have a diminished chord. This greatly increases the tension of the chord which can make it sound really interesting and jazzy.



D♭o7	D♭	E	G	B♭
Change note to	D#	F#	A	C

Chord	Diminished	Altered Diminished
A♭o7	A♭ B D F	A♭ B D **G**
		A♭ B **E** F
		A♭ **C#** D F
		B♭ B D F

Taking this to the extreme, you can also move ALL the notes up a whole-step and play a D#dim7 chord instead of a D♭dim7 chord. This will sound incredibly dissonant, but it's theoretically correct.

Double Diminished Chord

You may have also noticed that the Diminished Scale is really just two Diminished Chords a semitone apart, superimposed over each other. Using this idea allows you to create something called a **Double Diminished Chord**.

If you play a D♭dim7 chord in your left hand and a Cdim7 chord in your right hand, you have yourself a Double Diminished Chord. This is a very jazzy and dissonant sound which can actually be a number of different chords at once. These are listed below.

Voicing	Chord	Notes	Combined Chord
Left Hand	D♭o7	D♭ E G B♭	C13♭9#9#11 D#13♭9#9#11 F#13♭9#9#11 A13♭9#9#11
Right Hand	Co7	C E♭ G♭ A	

Have a Listen to

- Moment's Notice ~ John Coltrane (Coltrane's solo at about 2:07)
- Caravan ~ Duke Ellington
- Freedom Jazz Dance ~ Covered by Miles Davis' Second Great Quintet (Hancock's solo at 4:50)
- Dolphin Dance ~ Herbie Hancock

Here's the video:

https://www.youtube.com/watch?v=IOhCHx6_7CQ&feature=emb_logo

21. Pentatonic Scale

Introduction

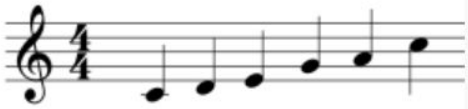
Technically, a **Pentatonic Scale** is any scale with 5 notes. However, when people use the term 'Pentatonic scale' they are generally referring to the **Major Pentatonic Scale**.

The Major Pentatonic Scale is a very consonant & pleasant sounding scale. This is because:

- It is made of stacked Perfect 5th intervals: C, G, D, A, E; and
- It has no semitone intervals between any of the notes.

Arranging the above notes in sequential order gives you the:

- C Major Pentatonic Scale = C, D, E, G, A



They are a good way of avoiding **Avoid Notes**. And, just like any other pre-existing scale, you can create **modes** out of the Major Pentatonic Scale by selecting a different root note.

Modes of the Pentatonic Scale

The below table summarises all 5 modes of the Major Pentatonic Scale, each using C as the root.

As I mentioned above, the Pentatonic Scale is often used to avoid Avoid Notes. In the key of C Major, the note 'F' (♮11) is an avoid note over the chords CMaj7 and C7; therefore we should avoid using any Pentatonic Scale which has the note 'F' in it over these two chords. However, 'F' is an available tension over a C7sus and a Cm7, so we can use such a scale over these chords. Similarly, A♭ (♭13) is NOT an available tension over a Cm7, so we cannot use any Pentatonic Scale which has the note A♭ in it over this chord.

Mode	Major Pentatonic Scale	Notes	Chord	Avoid Note	Blues – Tonic Dominant
1	C Maj Pent	C D E G A	CMaj7 & C7	None	C7 (Tonic Dominant - allow♮11)
2	B♭ Maj Pent	C D F G B♭	C7sus & Cm7	F	
3	A♭ Maj Pent	C E♭ F A♭ B♭	C7sus	F & A♭	
4	F Maj Pent	C D F G A	C7sus & Cm7	F	
5	E♭ Maj Pent (C minor Pent)	C E♭ F G B♭	C7sus & Cm7	F	

(Aside: The Blues harmony is a little bit different. The ♮11 (F) ***IS*** *an available tension over a C7 chord in a blues context. This is because Blues is a little bit 'rougher' and 'bluesier' and so a little bit of dissonance fits the style rather well. This is also because the dominant chord in a Blues does NOT necessarily function as a dominant chord – it can also function as a Tonic Dominant. There will be more on this in future lessons.)*

Major Scale Harmony

The C Major Scale contains three naturally occurring Major Pentatonic Scales:

- C Maj Pent – C D E G A
- F Maj Pent – F G A C D
- G Maj Pent – G A B D E

Below is a table summarising the Pentatonic scales which can be used over a II-V-I in C Major. Notice that the G Pentatonic Scale fits over all three chords.

Chord	Possible Pentatonic Scales	Notes	Comment
Dm7	C Maj Pent	C D E G A	No Avoid Notes
	F Maj Pent	F G A C D	
	G Maj Pent	**G A B D E**	
G7	**G Maj Pent**	**G A B D E**	C & F Maj Pent have note C (avoid note)
	D♭ Maj Pent	D♭ E♭ F A♭ B♭	
CMaj7	C Maj Pent	C D E G A	F Maj Pent has note F (avoid note)
	F Maj Pent	F G A C D	
	G Maj Pent	**G A B D E**	

Melodic Minor Harmony

The C melodic minor scale contains one naturally occurring Major Pentatonic Scale:

- F Maj Pent – F G A C D

This scale can thus be used over any chord derived from the key of C melodic minor. This can then be expanded to cover the minor II-V-I (below).

Chord	Dm7♭5	G7♭9	CmMaj7
Scale	B♭ Maj Pent	D♭ Maj Pent	F Maj Pent

Note also that there are other Pentatonic Scales, including but not limited to:

- In-sen Scale
- Dorian ♭2 Pentatonic Scale
- Blues Scale (this is technically a hexatonic scale, actually)

These will be covered in future lessons.

Have a Listen to

- You Are There ~ Johnny Mandel and Dave Frishberg
- Love for Sale ~ Cole Porter
- I Got Rhythm ~ George Gershwin
- Sweet Georgia Brown ~ Ben Bernie & Maceo Pinkard
- Every Blues song ever
- Every McCoy Tyner improvisation

Here's the video link:

https://www.youtube.com/watch?v=o4IS0m-pOWA&feature=emb_logo

22. Augmented Scale

Introduction

Much like the **Diminished Scale** is actually just two diminished chords superimposed over each other. The **Augmented Scale** is just two augmented chords superimposed over each other. But it can also be thought of as three major triads superimposed over each other: