

INTRODUCTION TO
CHORD
SUBSTITU-
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BY JEAN-MICHEL G.

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INTRODUCTION

Replacing chords by other chords in a progression is a very effective way to add interest to that progression. It's like spicing up an otherwise ordinary meal.

But this is another of those huge topics, so I'll only scrape the surface...

- In Section 1 we'll talk about diatonic substitutions - the simplest form of substitution.
- In Section 2 we'll look at applied dominant and pre-dominants.
- In Section 3 we will discuss modal chord borrowing.
- In Section 4 we'll address tritone substitutions.
- In Section 5 we will very briefly look at negative harmony.

So if you want, you can go directly to the topic that you are most interested in.

But we need to get a few things out of the way first: we'll do this below.

Harmonising a major scale always produces the same types of chords:

I ii iii IV V vi vii°

They are called the "diatonic chords" of the key.

We can of course also use 7-note chords instead of triads, in which case we have:

IM7 ii7 iii7 IVM7 V7 vi7 vii7(b5)

We are now going to group these chords in three distinct families, or groups. In functional harmony those groups are called "functions".

- The **tonic** family (T-chords)

Chords in this family are all the chords that don't contain

the 4th degree of the scale (Exception: the V chord is NOT a tonic chord but a dominant chord - see below).

T-chords: I, IM7, I6, iii, iii7, vi, vi7

— The **pre-dominant** family (P.D.-chords)

Chords in this family contain the 4th degree of the scale, but not the tritone.

P.D.-chords: ii, ii7, IV, IV6, IVM7

— The **dominant** family (D-chords)

Chords in this family contain the tritone (and therefore necessarily also the 4th degree).

D-chords: V, V7, vii7(b5), ii6

Traditionally, the V chord is also considered to be a dominant chord despite the fact that it doesn't contain the tritone.

Usually, vii7dim is also considered a D-chord, although it isn't diatonic (in C major, it is the B7dim chord: B - D - F - Ab).

These definitions apply equally to minor keys. They are important because tonal music is essentially a journey from Tonic chords to Dominant chords through pre-dominant chords, and then back to the tonic. So we need to know where we are in the journey.

IMPORTANT NOTE:

In tonal music from the Common Practice era, according to North American music theorists, the iii and vi chords ARE USUALLY NOT considered T-chords but rather P.D.-chords despite the fact that they don't contain the 4th degree. Europe has a slightly different take on this.

However the definitions above are appropriate for jazz and other more contemporary music genres.

1.

DIATONIC SUBSTITUTIONS

The basic principle of diatonic substitutions is that, in theory, chords belonging to the same family can be freely substituted to one another since they have the same harmonic functions.

Let's take the following very simple chord progression in C major:

C	F	G7	C
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In functional harmony terms, we have T | P.D. | D | T

You may want to amplify the P.D. function and replace the chord progression with:

C	F Dm	G7	C
---	--------------------	----	---

This works because F and Dm have the exact same function (pre-dominant).

But note that:

C	Dm F	G7	C
---	--------------------	----	---

although theoretically identical, doesn't work so well, due to the poor movement of the roots.

You may also find the original progression too simple; in that case, you may decide to increase the harmonic rhythm and replace the progression with:

Em7 Am7	F Dm7	G7 Bm7(b5)	C
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Again, this works because all the chords have the same function as the chords they replace.

Of course, substitutions need to remain "reasonable"; for example, replacing the last C chord by an Am or Em chord would probably not work very well since you would be losing the strong final cadence.

Also, always remember the golden rule:
If it sound good, it is good!
(And if it sounds shit, it is shit!)

Conversely, if you have a very busy chord progression you may want to simplify it for improvisation purposes. For example, if the band or backing track plays the following chord progression in F major:

BbM7	Gm7	C7	Em7	Dm	Am	F
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you will recognise the following functions:

P.D | D | T | T

and so you could decide to simplify the progression and improvise off the following chords:

Bb	C7	FM7	F
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2.

APPLIED DOMINANTS

Another very frequent substitution consists in "tonicizing" a diatonic chord by means of its own dominant chord.

Let's take an example: suppose we have the following progression

C	F	Dm	G	C
---	---	----	---	---

We could replace it with

C	F	D7	G	C
---	---	-----------	---	---

The D7 chord which replaces Dm is **not** diatonic to C major, since it contains an F# tone which doesn't belong to the C major scale. But this is nevertheless an extremely common substitution. It is called "tonicization" because it creates a V7 → I cadence, in this case to G, and establishes that G chord as a very temporary and local tonic chord.

In functional harmony this D7 would be notated V7/V and so the progression would be notated

I	IV	V7/V	V	I
---	----	-------------	---	---

Each diatonic chord can be tonicized in the same way (except vii7(b5)), and so we can have

V7/ii, V7/iii, V7/IV, V7/V, V7/vi

They are called "applied dominants" or "secondary dominants".

But remember that within a key, we have several other chords with a dominant function.

For example, in D harmonic minor, the vii7(b5) chord (C#m7(b5)) also has a dominant function.

So, instead of

C	A7	Dm	G	C
---	----	----	---	---

where A7 is the V7/ii, we could also have

C	C#m(b5)	Dm	G	C
---	----------------	----	---	---

where C#m7(b5) is the vii7(b5) (leading tone chord) of the D harmonic minor key, and therefore has the same dominant function as A7.

It is also possible to precede the applied dominant chord with its own P.D.-chord., which is then called an "applied pre-dominant" chord.

For example, instead of

C	C7	F	G	C
---	----	---	---	---

where C7 is the V7/IV, you could have

C	Gm7 C7	F	G	C
---	---------------	---	---	---

where Gm7 is the ii7 chord in F major. So we would notate this

I	ii7/IV V7/IV	IV	V	I
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Applied (or secondary) dominants and pre-dominants often provide the opportunity to propose interesting bass lines by using inversions. Take for example the following progression:

C	Em7	Gm	A7	Dm	Dm7	G
---	-----	----	----	----	-----	---

which is of course

I	iii7	IV/ii	V7/ii	ii	ii7	V
---	------	-------	-------	----	-----	---

But in root position, these chords don't sound very good, at least to my ears. But if we use inversions, we can turn it into

C	Em7/B	Gm/Bb	A7	Dm	Dm7/C	G/B
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C | Em7/B | Gm/Bb | A7 | Dm | Dm7/C | G/B | C
where the bass goes C -> B -> Bb -> A -> D -> C -> B

Sounds much better!

A final warning: when you use secondary dominants, and even more so when you use applied pre-dominants, you begin to push on the boundaries of tonality, because you are using cadences that come from a different key. So the danger is that you effectively modulate to that tonality, which may not be the purpose.

3.

BORROWED CHORDS

THE PARALLEL MINOR MODES

Lets start with the C major scale:

C D E F G A B

The **natural minor** scale which has the same tonic is:

C D Eb F G Ab Bb

The **harmonic minor** scale which has the same tonic is:

C D Eb F G Ab B

The **melodic minor** scale which has the same tonic is:

C D Eb F G A B

So, if we write the major scale:

1 2 3 4 5 6 7

Then we define three **parallel** minor scales:

- the natural minor scale: 1 2 b3 4 5 b6 b7
- the harmonic minor scale: 1 2 b3 4 5 b6 7
- the melodic minor scale: 1 2 b3 4 5 6 7

They are called "parallel" because they share the same tonic.

They should **not** be confused with the relative minor scales!! The relative minor scale of C is an A minor scale (which can be natural, harmonic or melodic). The distinction is extremely important because switching from C major to A minor is a **modulation** (a change in tonic), whereas switching from C major to C minor is considered a **modal exchange** (same tonic, different mode).

The fact that there are three different minor scales creates a bit of confusion when it comes to harmonising a minor scale. In fact, the only reason for the harmonic minor scale to exist is to provide a leading tone which in turn provides a strong V7 chord instead of a weaker v7 chord. But it is usually admitted that the V chord is the only chord that is affected by the harmonic nature of the scale; for all the other chords, the natural minor scale is usually assumed. Put differently: the major >7th allows the v7 to become a V7 chord, but all the other chords are unaffected.

So let's harmonise the C minor scale with triads:

Cm Dm(b5) Eb Fm G7 Ab Bb

If we again compare this with the harmonisation of the parallel major scale, we get:

- Major scale: I ii iii IV V vi vii°
- Parallel minor: i ii° bIII iv V7 bVI bVII

BORROWING

Modal borrowing consists in replacing a diatonic chord by a chord with the same function in the parallel minor mode (whereas modal exchange is the permanent adoption of the parallel mode).

For example, in C major, we could have the progression

C	Dm G7	C	F	G7
---	-------	---	---	----

and replace it with

C	Dm G7	C	Fm	G7
---	-------	---	-----------	----

where the iv chord (Fm) replaces the IV chord (F) while retaining the same harmonic function (pre-dominant).

But we could also have

C	Dm G7	C	Dm7(b5)	G7
---	-------	---	----------------	----

since the ii7(b5) chord (or ii° triad) also has a pre-dominant function. This sounds great, particularly if you put that ii7(b5) chord in first inversion: Dm7(b5)/F.

EXTENDED BORROWING

We discussed borrowing from the parallel minor mode, but there is nothing to stop you from borrowing chords from any of the other modes of scale: Lydian, Mixolydian, Dorian, Phrygian and Locrian.

Simply use the same principle!

4.

TRITONE SUBSTITUTION

A tritone is an interval of an augmented fourth (or diminished fifth).

In each major tonality there is one, located between the 4th and 7th scale degrees. And in each major tonality there are two chords that contain the tritone: V7 and vii7(b5).

But in total, there are only six distinct tritones, which are (F, B), (E, Bb), (Eb, A), (D, Ab), (Db, G) and (C, Gb). Since there are twelve keys, each tritone must necessarily appear in two different keys.

In fact, considering enharmonic spellings:

- (F, B) appears in the chords G7 and Db7
- (E, Bb) appears the chords C7 and Bb7
- (Eb, A) appears in the chords F7 and B7
- (D, Ab) appears in the chords Bb7 and E7
- (Db, G) appears in Eb7 and A7
- (C, Gg) appears in Ab7 and D7

If you consider that the 3rd and the 7th are the most important chord tones and that the fifth and even the root can be omitted, then two chords with the same tritone can be exchanged since by definition they have the same 3rd and 7th; this is in essence the "tritone substitution". Instead of the diatonic V7 chord, replace it with a V7 chord located a tritone lower.

So, for example, the following progression

C	Am	Dm G7	C
---	----	-------	---

could be replaced by

C	Am	Dm Db7	C
---	----	---------------	---

where Db7 replaces G7 since they have the same tritone. This also produces an interesting descending bass line D → Db → C.

We would notate this:

I	vi	ii subsV7	I
---	----	-----------	---

We have seen that when we use secondary dominants, we can use the ii or IV (iv) chord relative to the applied dominant; this is possible also in the case of the tritone substitution; so we could have

C	Am	Abm7 Db7	C
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where Abm7 is the ii7 chord of Gb major, of which Db7 is the V7 chord!

Confused?

Question: What key is Db7 the V7 of?

Answer: Gb major (or minor)

Question: what is the ii chord of Gb major?

Answer: Abm

But don't worry! Tritone substitution is not for the faint-hearted! In fact, it sounds **very** jazzy and may or may not work for you, depending on the genre you play and the type of sounds you're after.

5.

NEGATIVE HARMONY

Negative harmony is a particular form of mirroring technique.

Say we have the following melodic fragment: C D D B C

This melody is based on the following intervals:

- up a 2nd
- down a minor 3rd
- up a minor 2nd

If, still starting from C, we use the exact same intervals but reverse the directions, we get: C B \flat B \flat D \flat C

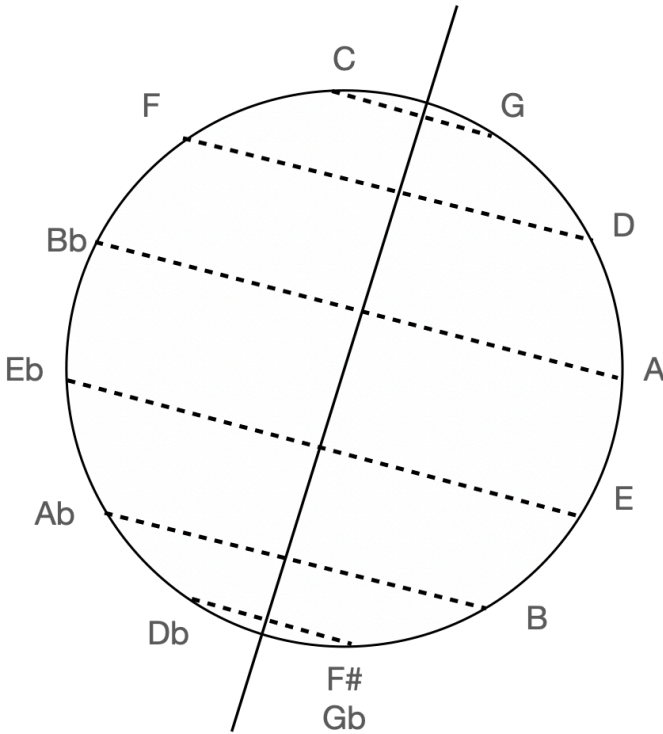
This second melody is said to **mirror** the first one.

It is a composition technique that has been used for centuries. J.S. Bach used it a lot.

In this case, we mirrored everything with respect to the note C. There are of course many possible mirroring techniques, and "negative harmony" uses an **axis on the circle of fifths**.

Let's work in C major. In the diagram below, you will see the circle of fifths with an axis dividing it in two parts, and passing between C and G on one end and G \flat and D \flat on the other end. If we were working in, say, D major, the axis would be between D and A on one end and E \flat and A \flat on the other end.

The dotted lines define the mirror pairs: C becomes G, D becomes F, A becomes B \flat , etc.



So let's say we want to find the "negative" of a Dm7 chord: (D, F, A, C). All we have to do is pick the negative of each chord tone, and turn the result upside down. So (D, F, A, C) -> (F, D, Bb, G) -> (G, Bb, D, F) = Gm7.

So the "negative" of Dm7 is Gm7.

By the same token, the negative of Am (A,C,E) is Bb.

And G (G, B, D) becomes Fm.

And Bm7(b5) = (B, D, F, A) gives (Ab, F, D, Bb) which becomes (Bb, D, F, Ab) which is Bb7.

The substitution principle here is of course that a diatonic chord is replaced by its negative. But we normally don't substitute the tonic chord!

For example, the simple progression

C	Am	G	C
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could be rewritten as

C	Am	Fm	C
---	----	----	---

where Fm is the negative of G. We could also substitute the Am chord which would be Eb. Or we could only replace that Am chord and leave the G chord alone; the progression would then become:

C	Eb	G	C
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Of course, when a chord is substituted, the new chord mustn't clash with the melody. Put differently, the melody note must be a chord tone or an acceptable embellishment of the chord.

As always, let your ears decide!

ABOUT THE AUTHOR

Amateur composer/singer/songwriter with a classical background. I also attended a two years class in composition and harmony at the conservatory. I play mostly guitar and switched to more popular genres (pop, rock, blues, jazz) a long time ago. I strongly believe that music theory shouldn't replace making music but that it can be a great help.