

Pentatonics

After a little thought, I've concluded that before looking at more melodic substitution ideas, a brief look at pentatonic scales would be in order.

The reason is that you'll have a few more options to throw into the melodic substitution pot.

Having looked at the regular scales like the major, minor and associated modes you'll have seen that they all contain 7 notes.

Pentatonic scales contain only 5 notes and there are two basic types.

The major pentatonic intervals are:

Tonic, major 2nd, major 3rd, perfect 5th, major 6th

So in the key of G major, the notes are:

G, A, B, D, E

The minor pentatonic intervals are:

Tonic, minor 3rd, perfect 4th, perfect 5th, minor 7th

So in the key of Am, the notes are:

A, C, D, E, G

Nice and easy so far.

In modern popular music [pop, rock, blues, metal etc] the pentatonic scale is by far the most common note selection method for both melodies and solos.

Tip regarding the fingerings:

A pentatonic scale contains five notes so there are five different fingering patterns but in general you'd only use two notes per string to create each scale fingering.

These five different patterns are exactly the same for the major and minor pentatonic scales; it's simply a matter of where they are placed with respect to the tonic [as you will see].

There are two patterns that are particularly useful because they fall either side of a 'line' where the notes all use the same fret.

So let's take a look at these two very nice patterns.

In Am, starting on the 6th string / 5th fret we have the note A. Using two notes per string we arrive at the following pattern:

6th string -> frets 5, 8

5th string -> frets 5, 7

4th string -> frets 5, 7

3rd string -> frets 5, 7

2nd string -> frets 5, 8

1st string -> frets 5, 8

Note that fret 5 is used right across the neck like a 'line' and that all the notes occur 'above' it from a pitch perspective.

My 'nickname' for this pattern is the "upper pentatonic shape" because the notes occur on or further up the neck from 'the line'.

And as you'd expect, I've nicknamed a "lower pentatonic shape" where the notes occur on or below 'the line'

6th string -> frets 3, 5

5th string -> frets 3, 5

4th string -> frets 2, 5

3rd string -> frets 2, 5

2nd string -> frets 3, 5

1st string -> frets 3, 5

These two shapes are pretty much the most useful and important shapes you'll ever learn.

Why are these two patterns so important ?

- they are extremely easy to visualise
- easy to locate
- it's easy to plant the additional scale notes within them [for the regular major, minor and some modes]
- and hugely versatile once you realise their full potential

So how can you plant these two shapes into another key?

Simple, the note A occurs on both E strings [1st and 6th] at the 5th fret and that's where 'the line' is located. And for an octave above 'the line' occurs at fret 17.

This 'line' locates the upper and lower pentatonic shapes in the key of Am.

In Dm you simply find 'the line' where the D occurs on the E strings [fret 10].

In Em, 'the line' is located on fret 12.

F#m, 'the line' is located on fret 2 and up on fret 14.

It just don't get any easier than that.

The great thing about having this 'line' is that when you are soloing it is so easy to see from both the 6th and the 1st strings.

It's simply just like looking at an imaginary stripe across the width of the fingerboard.

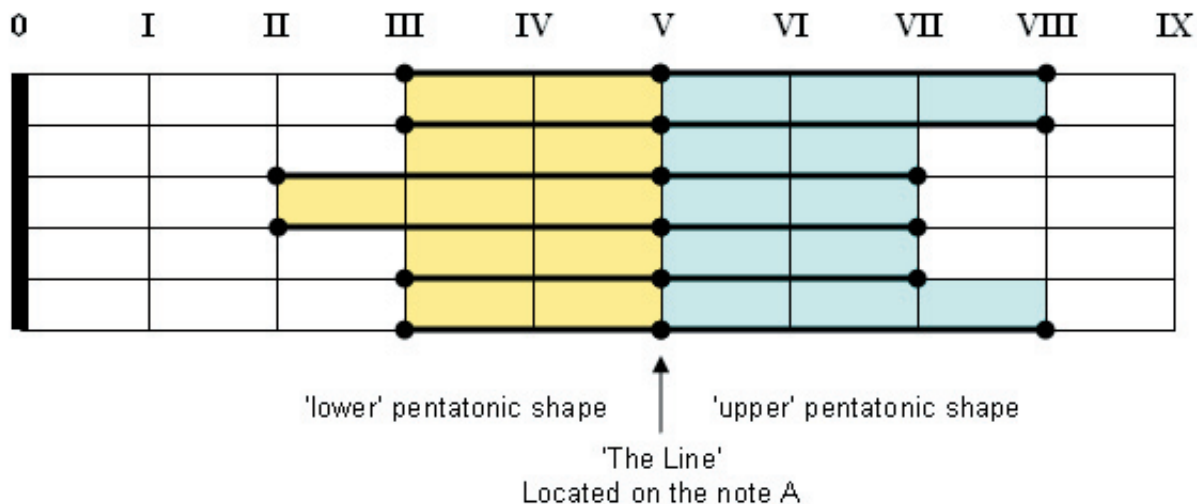
So no matter where you are you can easily find it.

The diagram below illustrates the upper and lower pentatonic shapes either side of "the line".

The top line represents the 1st string [the thinnest string] and the bottom line represents the 6th string [the thickest string].

The vertical lines each represent a fret which is numbered in roman numerals.

Fret '0' represents the 'nut'

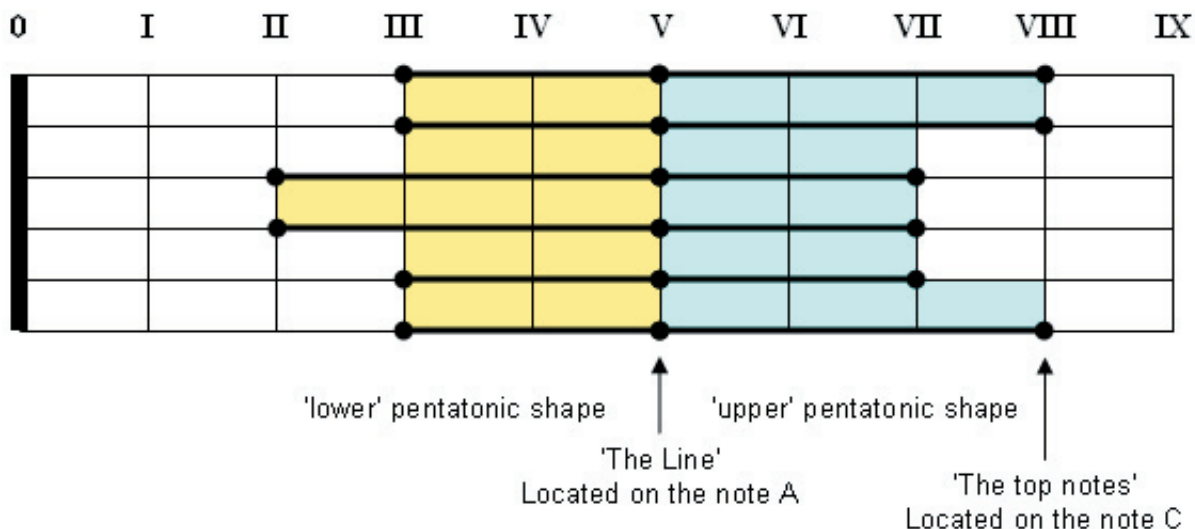


Fret V = the note A, therefore the pentatonic shapes above are in the key of Am.

So how do you locate the major pentatonic?

This is just as simple. Find the tonic on either of the E strings, and move 'the line' 3 frets 'down' the neck [towards the nut].

This means that the top notes of the 'upper' shape are located on the tonic of the key.



Fret VIII = the note C, therefore the top notes of the 'upper' pentatonic shape locates the tonic in the key of C.

Rule of thumb – the 'line' is located 3 frets below the tonic for a major key

So now you can find the two most commonly used major pentatonic scales and the minor pentatonic scales in any key. With time and experimentation, the other three pentatonic shapes can be learned which will open up more of the neck. These two however are the best and most useful to begin with.

Now let's take all this a little further.

Think back to melodic substitution and how the fact that a chord can be in more than one key and how this can be exploited.

Exactly the same principle can be applied to pentatonic scales.

Let's look at the major pentatonic scale first.

The major pentatonic scale is derived from the major scale as we've seen previously.

We also know by now that a major scale contains three major triads.

These are chords I, IV and V.

So in the key of E major, the chords of E [I], A [IV] and B [V] will sound great when notes from E major pentatonic are chosen.

Using the 'melodic' substitution' tricks we can use the same logic in reverse.

When the chord of E major is sounding, we can consider it as being either chord I, IV or V of other major scales enabling us to create more tonal diversity.

The chord of E major can be:

with the tonic located on I: chord I in E major – pentatonic note pool: E, F#, G#, B, C#

with the tonic located on IV: chord IV in B major – pentatonic note pool: B, C#, D#, F#, G#

with the tonic located on V: chord V in A major – pentatonic note pool: A, B, C#, E, F#

The scale of E major – E, F#, G#, A, B, C#, D#

Notice that all three of these pentatonic scales all actually sit within the E major scale and that all of the notes are diatonic.

In true parallel modulation style, I quite like switching between all of these pentatonic scales whilst in the same major key. I am completely diatonic, but the 'shift' in position can give new and fresh tonal dimensions to your regular

Now let's try the same exercise using the minor pentatonic scale.

The minor pentatonic scale is derived from the minor scale.

We also know by know that a minor scale contains three minor triads.

These are chords I, IV and V.

So in the key of Em, the chords of Em [I], Am [IV] and Bm [V] sound great when notes from Em pentatonic are chosen. When the chord of Em is sounding, we can consider it as being either chord I, IV or V of other minor scales.

The chord of Em can be:

with the tonic located on I: chord I in Em – pentatonic note pool: E, G, A, B, D

with the tonic located on IV: chord IV in Bm – pentatonic note pool: B, D, E, F#, A

with the tonic located on V: chord V in Am – pentatonic note pool: A, C, D, E, G

The scale of E minor – E, F#, G, A, B, C, D

In theory, these minor pentatonic scales should all sound great.

In practice, the IV scale [where our Em is chord V of Am] can sound a little “out there”.

There is a great solution for this.

Most rock, metal, funk, blues etc in minor keys tends to use Dorian tonality as opposed to natural minor tonality.

This means that we have a new “key centre”.

E Dorian is derived from the key of D.

If we adopt the same I, IV and V principle we come up with new pentatonic scales.

I of D = D which is therefore the same note pool as Bm

IV of D = G which is therefore the same note pool as Em

V of D = A which is the same note pool as F#m

So in E Dorian we arrive at the following:

with the tonic located on I: chord I in Em – pentatonic note pool: E, G, A, B, D

with the tonic located on II: chord VII in F#m – pentatonic note pool: F#, A, B, C#, E

with the tonic located on IV: chord IV in Bm – pentatonic note pool: B, D, E, F#, A

The scale of E Dorian – E, F#, G, A, B, C#, D

Now little collection sounds very nice.

The really cool part is that the switch from minor pentatonic I to minor pentatonic II is simple.

Just play the same stuff 2 frets higher up the neck.

This makes for very swift and easy transitions between the two pentatonic shapes.

A very nice little trick is to play a small lick and repeat the fingering 2 frets above in the II pentatonic position.

You can also try the same thing in the V pentatonic position.

This example means that you can play a small phrase in the Em pentatonic position, then F#m pentatonic and then in Bm pentatonic.

Like a “theme and variations”, tricks like this can add a feeling of continuity to solos and melodies because a phrase previously reappears in a slightly new guise each time.

There is one last “odd ball” pentatonic to look at.

The “Blue Pentatonic”

This is a minor pentatonic played over a major triad.

Technically this should not work at all, but it does.

So playing Em pentatonic over and E major triad is a sort of “wrong over right” thing.

And it sounds very cool too, especially when mixing up in and amongst the other major pentatonic scales.

So let’s look at the note pools.

The scale of E major is:

E, F#, G#, A, B, C#, D#

The scale of E minor pentatonic is:

E, G, A, B, D

So far this is not really working. And there is a reason for it.

Too many of the notes are different.

G# clashes with G and D# clashes with D

In blues, jazz and rock however, it’s not uncommon to find that music in a major key is not quite major tonality.

The 7th note can be flattened to a minor 7th interval so make the music sound cooler.

Remember back to our mode tutorial.

A major scale with a minor 7th is the Mixolydian mode [the 5th mode].

In order to find the centre key of the Mixolydian mode, our E major triad must be chord V of another key.

E major is chord V in the key of A major.

This means we have a new note pool.

The scale of E Mixolydian is:

E, F, G#, A, B, C#, D

The scale of E minor pentatonic is:

E, G, A, B, D

Only the 3rd notes - G# and G - clash so we now have a much better match between them.

To sweeten it a little further and sort of “right the wrong”, you’ll often hear blues, jazz and rock players shift from the minor 3rd to the major 3rd.

This is done by the following methods:

Slide from G to G#

Hammer-on from G to G#

Bend from G to G#

The bend actually does not have to make it all the way to G#. It can be a “micro-tone” bend which heads towards the major 3rd but never quite arrives there. This can be just enough to fool the listener’s ear into implying that the major 3rd actually sounded.

What we end up with is a major triad and the minor pentatonic scale implying Mixolydian tonality. Again, parallel modulation between the major pentatonic scales and the blue pentatonic sounds great.

This “wrong over right” and then correct it by moving to a “good note” is nothing new.

In the days of Mozart, this sort of thing was common by performing two very nice musical “ornaments” known as an appoggiatura and an acciaccatura – the stuff of a future tutorial.

Final tips and comments.

When experimenting with the alternative pentatonic scales, especially at first, you'll find it all too easy to slip into familiar lick fingerings. Some will sound fantastic and others will not sound very nice at all.

Why is this?

Think about what is happening.

Although the fingerings are familiar, the notes that are consonant with the sounding chord are now in different locations with respect to the scale's fingering pattern.

So although you are diatonic with respect to key, you can find yourself lingering on a note that is dissonant with respect to the sounding chord.

This means that you can end a lick with a long note that is clashing badly with the sounding chord.

Take some time to locate the root, 3rd, 5th and 7th of the sounding chord with respect to these new pentatonic locations so that you gain a spatial awareness.

Then experiment with this stuff and let your ear be the judge as to what works in what situations.

The outcome is that a small number of lick fingerings can be shifted into other pentatonic locations which greatly multiplies their potential and provides you with a far greater range tonal options. Essentially a means to getting a great deal out of just a few ideas.

If you guys have any interest in soloing, freestyle / improvisation etc, then getting your head around this stuff is a must. In many cases, this note selection technique forms a nice basis from which you can develop and expand into new tonal areas.