## The altered scale: why?

Ok, don't read this if you aren't interested in theory. It won't help your playing one little bit. And this is my theory; I haven't had it verified by any professors of Jazz or anything.

So where does the altered scale come from? It comes from *Tritone Substition* and then *making a scale* that fits the resulting chords.

### Tritone Substitution

Imagine a progression such as $D\varnothing \quad G^{7\flat9} \quad Cm^{7}$. Now we all know how bass players get bored, and anyway they're quite lazy, and one day they say "*I really can't be bothered to go all the way from D to G and back to C, let's just play* $D^{\flat}$ instead. This gives rise to a **tritone substitution.** That's where a chord is replaced by another chord half an octave away. The $G^{7\flat9}$ is replaced by something like a $D^{\flat7}$.

The first chord was spelled G, B, D, F, $A^{\flat}$. The second chord is spelled Db, F, $A^{\flat}$, B. These are pretty similar, except that the first has a G where the second doesn't, and the first has D where the second has $D^{\flat}$. So let's flatten the D in the first chord, giving $G^{7\flat9\flat5}$. Let's add a G to the second chord giving $D^{\flat7\sharp11}$.

## Making a scale

These chords are totally interchangeable, and contain the notes G, B, Db, F, A♭.

Put these notes in order and you've got: G, A♭, B, D♭, F. We need two more notes to make a scale. Well behaved scales follow these rules:

1. chromatic sections are banned, that is, no section of the scale may have more than two notes a semitone apart next to each other, and ...
2. you can't have an interval in a scale greater than a tone (this rule is blatantly violated by harmonic minor, but never mind)

So where can we get them in? There is only one way to fit then in. We need a note between A♭ and B. A would violate rule 1, so add A♯. You can't then add C or you'd violate rule 1 again. D would give an interval D to F that violates rule 2. E would violate rule 2 also (interval D♭ to E).

And you therefore end up with D♯. So now we've got G, A♭, A♯, B, D♭, D♯, F. That's the altered scale.