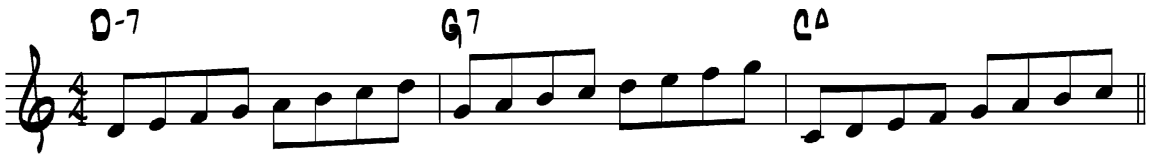
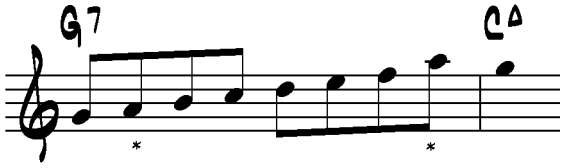
Bebop Scales and Rhythmic Symmetry

Major scales and their derivative modes play an enormous part in determining what to play over various chords. On one hand, improvising a jazz melody can be as simple as playing the second mode of a major scale over a ii^{-7} chord (C major scale starting on D over D^{-7}), the fifth mode of a major scale over a V^7 chord (C major scale starting on G over G^7), and the first mode of a major scale over a $I^{\triangle}$ chord (C major scale starting on C over $C^{\triangle}$). This is illustrated in the following example:

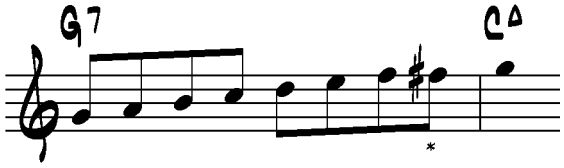


One thing you'll notice about these modes and scales is that they all consist of seven notes (not including the octave). This creates a problem in terms of **rhythmic symmetry**. In 4/4 meter, a measure of music contains eight eighth-notes. In keeping with our philosophy of momentum (streams of eighth notes providing a sense of motion towards a point of resolution), we need to fill up eight eighth-notes worth of material in order to propel us into the next measure. Two solutions are available:

1. repeat a note that has already been played:

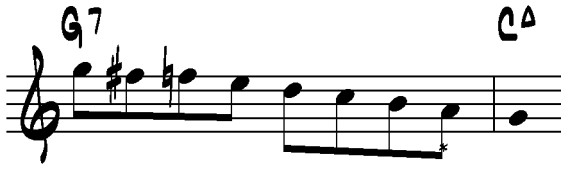


2. add another note to our scale:



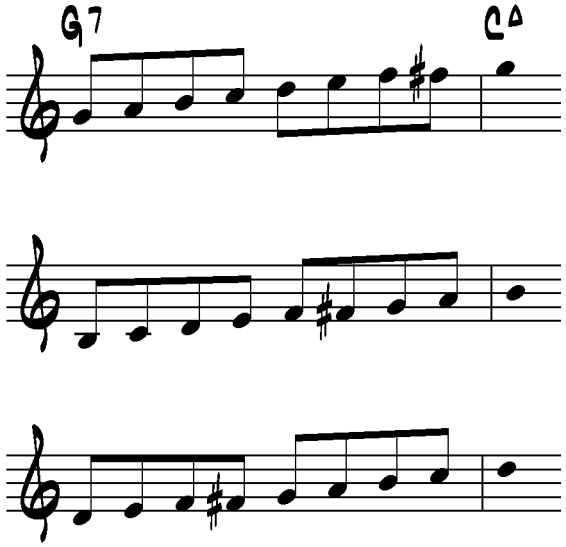
Adding a chromatic (non-diatonic) pitch to a major scale or mode creates a new series of scales, commonly referred to as **bebop scales**.

In the above example, inserting F# between F and G allows us to continue our upward melodic direction without sacrificing contour. It also allows us to land on a chord tone at our point of resolution (G, the fifth of $C^{\triangle}$). This is also true if we play the scale in descending form:

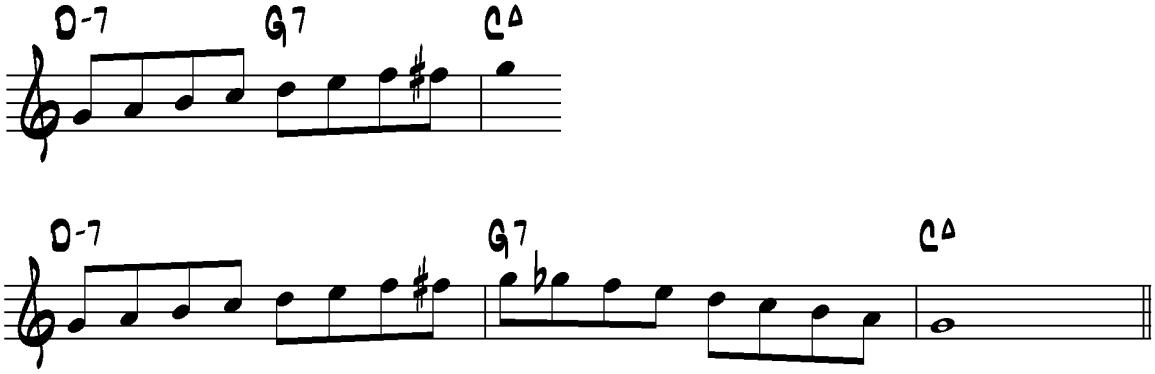


In addition to the added interest that results in adding a chromatic note between two diatonic notes, the rhythmic symmetry provided by eight notes contained within one octave can provide the improviser with a certain predictable nature to a melody. This will allow the improviser to think ahead to the next measure.

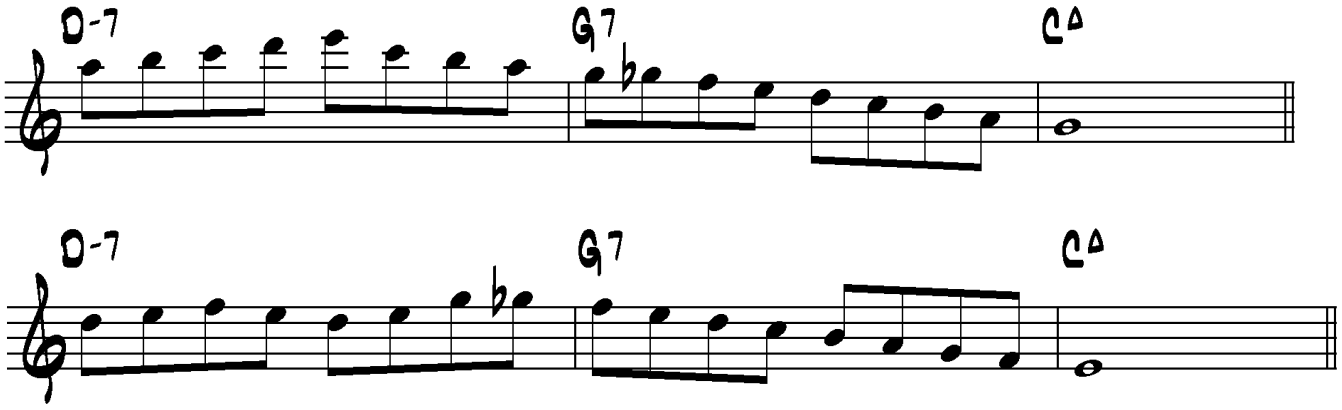
As an example, try the following exercises, beginning the appropriate bebop scale for G^7 on various chord tones:



Note: in addition to a V→I progression, the above melodies also work just as well over the more-common ii→V→I progression, common to nearly all standard jazz compositions:



In conclusion, if you start on a chord tone and adhere to the bebop scale, rest assured that you will end on a chord tone (provided the tune you're playing over doesn't change keys). This peace of mind will allow you to eventually become more creative with your melodies as time goes on. Also, as you become more familiar with the sound of these scales, you will recognize them in other people's playing, whether it be one of the legendary jazz masters or your next door neighbor. The following are common examples:



Addendum: there are a variety of different types of bebop scales. The one discussed above is a great place to start. The following exercise will help you develop a more thorough understanding of how these scales are structured.

Note how, in the following example, the added chromatic pitches for bebop major and bebop lydian (both major-seven chords) is between the fifth and sixth degrees of the scale/mode, while the added note is between the seventh and the root of all of the other scales/modes (minor chords, dominant chords, and half-diminished chords).