Intervals

A scale is a pattern of notes centred around a tonic. Within that overall pattern are smaller patterns, right down to the relationships between individual notes that form the building blocks of both melodies and harmonies. By knowing these small relationships, it is easier to gain a much greater understanding of the larger patterns and to learn to control the emotional effects they create in listeners.

The distance between any two musical tones is described as an interval. If the tones are played one after the other, as in a melody, they form amelodic interval, and if they are played simultaneously, they form aharmonic interval. The names of the intervals are based on the number of scale tones they contain. For example, the distance from C to D contains two scale tones, C and D; therefore it is a second interval. The distance from C to E contains three scale tones, C-D-E, so it is a third interval. Intervals are the same whether measured from the lower note or from the upper note; for instance, the distance from E down to C, containing three scale tones E-D-C, is still a third interval.

The number of scale tones an interval contains is called the interval quantity. The quantity is contained the same way in any key. For instance, the quantity of the interval Bb up to Eb, containing four scale tones, Bb-C- D-Eb, is a fourth interval; the presence of flats does not alter the interval quantity. Likewise, the distance from C# to G# is a fifth interval, because it contains five scale tones, C#-D#-E#-F#-G#, and the sharps do not affect the quantity. If the interval contains eight scale tones, it is called an octave; also, the distance between two notes of exactly the same pitch (containing only one scale tone) is called a unison.

Some intervals contain the same number of scale tones, but still look and sound different. Interval quantity gives us a general measurement of the size of the interval. The exact measurement is called the interval quality*,* which is the number of half steps the interval contains. Quality can be measured in comparison to the major scale.

Here are the basic rules and names examining the distance from the first note of a major scale upwards):

1) Seconds, thirds, sixths and sevenths are major intervals.

2) Unisons, fourths, fifths and octaves are perfect intervals.

3) Major intervals made smaller by a half step become minor.

4) Major intervals made smaller by two half steps become diminished.

5) Perfect intervals made smaller by a half step become diminished.

6) Perfect intervals made smaller by a two half step become double diminished.

7) Major or perfect intervals made larger by a half step are augmented; by two half steps they become double augmented.

Inversion of intervals

When an interval is inverted, the note names involved are still the same, and the intervallic relationship follows a pattern. In the above example, one interval is a major second, the inversion is a minor seventh.

Some simple rules for inversion of intervals follow:

1) ‘Nine’ minus the number of the interval equals the inversion interval.

2) Major intervals inverted become minor.

3) Minor intervals inverted become major.

4) Perfect intervals inverted remain perfect.

5) Augmented intervals inverted become diminished.

6) Diminished intervals inverted become augmented.

7) Double diminished intervals inverted become double augmented.

8) Double augmented intervals inverted become double diminished.

In order to correctly produce an inversion of any interval, the bottom pitch must be raised one octave or the top pitch must be lowered one octave. The inversion of a perfect unison becomes a perfect octave and vice versa.