

## Other Scales

I. **Pentatonic Scale** - a five note scale. Many different types are possible but the two most common in Western music are the major and minor forms given below. Notice that the major form is symmetrical in its intervallic construction.

The image shows three musical staves illustrating pentatonic scales. The first staff is labeled 'Major Pentatonic' and shows a scale with intervals M2, M2, m3, and M2. The second staff is labeled 'Major Pentatonic (showing symmetrical construction)' and shows a scale with intervals m3, M2, M2, and m3. The third staff is labeled 'Minor Pentatonic' and shows a scale with intervals M2, m2, M3, and M2.

The pentatonic scale is easily recognizable by its "glassy" sound. It has an oriental flavor and is used in many folk songs and children's songs. Due to the limited number of available pitches, pentatonic scales are frequently transposed for variety.

Any member of the pentatonic scale may potentially function as a focal pitch or "tonic." It is important to realize that it is not the lowest pitch in the scale that becomes like a "tonic" but it is the application of certain compositional techniques such as the framing of a note, duration, or doublings, that produce the sense of a focal pitch. There is not a single C pentatonic scale form, there are several. In fact, any pentatonic scale that includes the note C can potentially be called C pentatonic depending on whether C is projected as the focal pitch or not. In the major pentatonic scale above, since the scale includes the pitches C, D, E, G, and A, it can potentially be a C, D, E, G, or A pentatonic scale.

Another way to think about this concept is to place the note C in each of the five positions in the scale above. The following five pentatonic scales, all of which at least potentially use C as a pitch focus, are then devised:

The image shows five musical staves, each representing a pentatonic scale with the note C marked with an asterisk (\*). The scales are: 1) C, D, E, G, A; 2) C, D, E, G, A (transposed); 3) C, D, E, G, A (transposed); 4) C, D, E, G, A (transposed); 5) C, D, E, G, A (transposed).

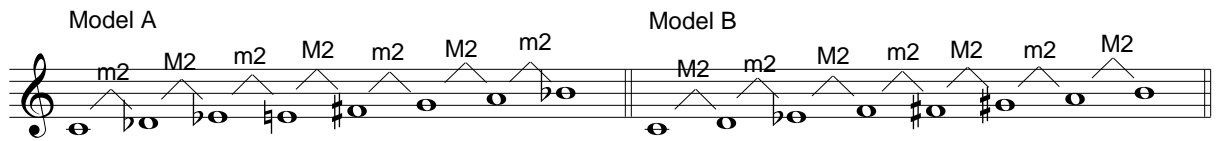
Notice that the intervals around the pitch C offer some variety in how C is framed. Also notice that only the major form was used in this example. There are five other minor pentatonic forms that contain C that may also be used.

The possible chords available from the notes of the pentatonic scale are limited. From the pentatonic scale [C, D, E, G, A] the possible chords are C major, A minor, A minor 7th, and quartal chords built on D, E, and A. Because of its limited harmonic vocabulary, the pentatonic scale is normally accompanied by nontertian or even nonpentatonic material.

II. **The Whole-Tone Scale** - A six-note scale constructed entirely of M2nds. Only two transpositions are possible (both are given below). Many tritones exist which produce a very unstable sound. Because of the scale's symmetry it is very weak as there is no "stopping pitch." The possible chords are even more limited than the pentatonic scale. They are the augmented triad, and the Fr+6. No major or minor triads are possible.

The image shows two musical staves illustrating the Whole-Tone Scale. The first staff shows the scale with intervals M2, M2, M2, M2, and d3 (M2). The second staff shows the scale transposed.

III. **The Octatonic Scale** - An eight-note scale that consists of alternating m2nds and M2nds (model A), or M2nds and m2nds (model B). There are only three transpositions of each before pitch-class content is duplicated. The octatonic scale may be viewed as two diminished 7th chords a half-step apart. For example: [C, Eb, Gb, A] and [C#, E, G, Bb]. The actual spelling of the scale is optional. The symmetrical construction of the scale, like the whole-tone scale, makes it difficult to establish a "tonal" or pitch center.



The octatonic scale is rich in tertian harmony. There are four dominant 7th chords, four major chords, four minor chords, and eight diminished triads.

IV. **Microtonal Scales** - The octave may be divided into more than twelve equal parts. Microtonal scales involve intervals smaller than a m2nd. Not all instruments are suitable for playing microtones. Obviously a vibraphone or any instrument with fixed pitch could not play microtones. However, a harp, wind, brass, or especially stringed instruments could perform them easily. The notation varies widely.

V. **Seven-note Synthetic Scales** - Two tetrachords from two different modes may be combined to form a new seven-note scale that does not conform to the intervallic pattern of any known traditional scale. Not all tetrachordal combinations will produce a new scale so be careful. For example, if one combines the first tetrachord of an ionian mode and the second tetrachord of a mixolydian mode the resultant scale is not a new scale but the mixolydian mode. However, if the first tetrachord of a lydian mode is combined with the second tetrachord of an aeolian scale a new scale will result (see below).

