Web Feature 2.1

Experimenting with scales

The scales and modes covered so far have one important feature in common: they all return to the tonic at the octave (or as Maria in *The Sound of Music* might put it, each scale "brings us back to *Do*"). Of course, there are many other ways to divide the octave. For example, **pentatonic** scales—scales with five notes to the octave—are found in the music of many cultures. Web Example 2.1 shows the major and minor pentatonic scales.



Web Example 2.1. The major and minor pentatonic scales.

At the other extreme, some composers in the twentieth and twenty-first centuries have experimented with **microtones**—pitches "in between" the tempered notes on the piano. The American composer Harry Partch (1901–1974), for example, carefully worked out a system of music that had 53 notes within the octave! (Such a system, of course, meant that he had to construct new instruments that could sound the precise pitches he desired as well as a way of notating these new pitches on paper. That work took up most of his life.)

Fortunately, there are many scales with which you can experiment without needing to "invent new pitches." One simple way to experiment with scales is to take a familiar scale and **inflect**, or chromatically alter, one or more of the scale degrees. For example, if we start with C major and lower the supertonic and the submediant, we get:

$$C - Db - E - F - G - Ab - B - C$$

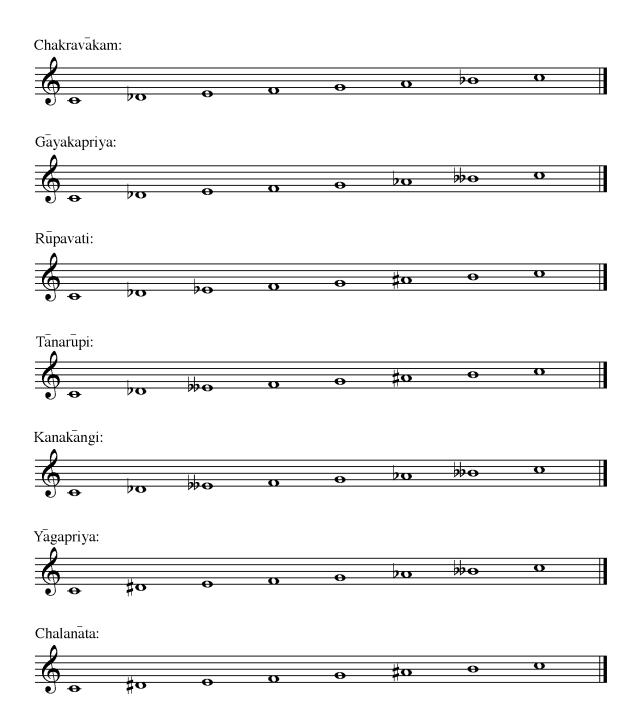
This scale, sometimes called the "Hungarian" scale, is found in Eastern European and Middle Eastern music. It has an interestingly ambivalent "major/minor" character, having the characteristics of both a major scale (like C major, it has the same tonic,

mediant, and dominant scale degrees) and a "minor" mode like Phrygian (because of the lowered supertonic and submediant). The Hungarian scale is used in the traditional Middle Eastern melody "Misirlou" (Web Example 2.2), which was adapted by the rock guitarist Dick Dale in 1962. Dale's version appears in the opening credits of the movie *Pulp Fiction*, and in turn it was also the inspiration for the Black Eyed Peas' song "Pump It."



Web Example 2.2. "Misirlou" opening.

Web Example 2.3 shows some other scales that can be derived by altering scale degrees. These scales are found in South Indian music; South Indian *melakarta* music theory allows for 72 different "parent" scales, all of which have seven steps.



Web Example 2.3. Some *melakarta*-derived scale constructions.

We have just scratched the surface of what is possible in constructing scales. In fact, the twentieth-century theorist/conductor/composer Nicolas Slonimsky (1894–1995)

wrote an influential reference book, *Thesaurus of Scales and Melodic Patterns*, which contained over 1,000 scales; this book was a major influence on the music of the legendary jazz saxophonist John Coltrane. (You may want to find a copy of this book and try out some of the more exotic scales in your practice regimen, as Coltrane did.)