

Harmonizing Melodic Content

by Dennis Winge

Harmonize a melody can really make a song come to life. This is done to great effect not only in metal bands like Iron Maiden, but also in classic rock groups such as The Allman Brothers and Thin Lizzy. Learning to harmonize a melody is a great practice because it combines ear training with music theory with fretboard knowledge. We will take this melody in E minor as our example:

The image shows a musical score for a melody in E minor. The top staff is in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. The melody consists of four measures, each with a chord symbol above it: Em, Am, Bm, and Em. The notes in the melody are: Measure 1: G4 (quarter), A4 (quarter), B4 (quarter), G4 (quarter), F#4 (quarter), E4 (quarter). Measure 2: D4 (quarter), C4 (quarter), B3 (quarter), A3 (quarter), G3 (quarter), F#3 (quarter). Measure 3: E4 (quarter), D4 (quarter), C4 (quarter), B3 (quarter), A3 (quarter), G3 (quarter). Measure 4: F#3 (quarter), E3 (quarter), D3 (quarter), C3 (quarter), B2 (quarter), A2 (quarter). Below the staff are three guitar strings: Treble (T), Middle (A), and Bass (B). The fretboard diagrams show the following fret numbers for each string: Measure 1: T (0, 3, 1, 0), A (0), B (0). Measure 2: T (1, 0), A (2), B (0). Measure 3: T (0, 1, 0), A (2, 0, 2), B (0). Measure 4: T (0), A (0), B (0).

The objective is to write another melodic line to be played (presumably by another instrument, or specifically in the case of the rock bands mentioned, two guitars each playing one of the lines.) Here are the basic steps:

1. Write the line out in numbers

This means to represent all the notes as intervals within the key. If your ear is trained you can recognize these much more easily. For example, you would simply 'hear' that the first note is a 5th if you have learned to associate that interval with a famous song (i.e. the notes *e* to *b*, which form the interval of a perfect 5th, is the same as the first two notes of the "Star Wars" theme.)

If your ear is not well trained, then you have to use music theory. Since E minor is the key here, *e* is 1 and *b* is 5, the first and 5th notes of the scale. You must know that the notes to a minor scale are 1, 2, b3, 4, 5, b6, b7, and 8 (which is the same as 1). Further, since it is a given that in a minor scale the third, sixth and seventh are flattened, it is not necessary in our analysis to constantly use the "b" symbol. When we say "3" or "6" or "7," we shall mean "b3," "b6" or "b7," unless a natural symbol (♮) is used.

Here is the result for each bar: | 5 1 7 6 5 | 6 5 4 | 5 6 5 4 3 4 | 5 |

2. Start the harmonized line on the next note in the triad

A triad is the 1st, 3rd, and 5th note of a particular key all played together. In this case, Em is *e*, *g*, and *b*. If the melody note is *e* then you can start the harmonized line on *g*, and if the melody was *g* then you could start on *b* to harmonize it. The first note of our melody is *b* and the next note of the triad goes back to *e*, above the *b*. In other words, think of it as a continuous series of triads (*e*, *g*, *b* then next octave *e*, *g*, *b* etc.)

3. Follow the contour of the original phrase

Contour means the overall shape of the melody. When it goes up, your new harmonized line goes up, and when the melody goes up, your new line goes down. (This is called “similar motion.” There are other kinds of motion that can be used to harmonize a line but this one is the simplest and most immediately relevant to most rock/pop contexts.)

We start our harmonized line on the 1, the e note, and then follow the overall direction, and get the following result:

Original line: | 5 1 7 6 5 | 6 5 4 | 5 6 5 4 3 4 | 5 |

Harmonized line: | 1 3 2 1 7 | 1 7 6 | 7 1 7 6 5 7 | 1 |

In standard notation it looks like this:

The image shows a musical score for a guitar. It consists of a treble clef staff and a guitar staff below it. The treble clef staff is in 4/4 time and has a key signature of one sharp (F#). The melody is written in a higher register. The guitar staff shows the original melody and the harmonized line. The harmonized line is written in a higher register. The chords are indicated as Em, Am, Bm, and Em. Fingering is shown with numbers 1-3 and 0 for open strings. The guitar part is shown on a six-string staff with Treble (T) and Bass (B) clefs.

4. Keep in mind the underlying harmony

Notice that in the two sets of numbers above, the harmonized line is often a “3rd” above the original, i.e. 1 becomes 3; 3 becomes 5; 5 becomes 7. However, this is not always the case. For example the second to last set of notes, according to our theory of thirds, should be 4 and 6. I chose to harmonize with 7 instead for two reasons, both of which relate to the harmony: a) the *d* note is chord tone to Bm, whereas the *c* (the choice of the 6th) would clash b) we are resolving to an *e* so it sounds stronger coming from a whole step (*d* to *e*), than it would coming from two whole steps (*c* to *e*)

5. Adjust aesthetically

The last point above, it could be argued, is more of an ‘aesthetic’ choice on my part than a theory-based choice. Let your ear decide. If it doesn’t sound right, all the theory in the world will not help make it sound right to your audience. Harmonizing a melody is both math and art.

Have fun with harmonizing melodies. If you find it too overwhelming to start, begin with a nursery rhyme. Here, I'll even get you started. Mary Had a Little Lamb: 3 2 1 2 3 3 3, 2 2 2, 3 5 5, 3 2 1 2 3 3 3 3 2 2 3 2 1. Play it in the key of G or something easy, so you can start hearing the effect of it right away. You'll be hooked in no time. :)