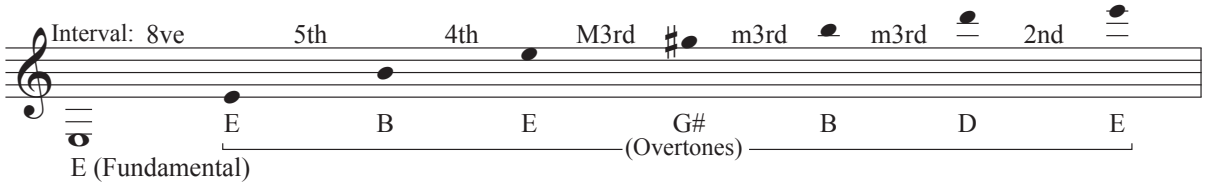
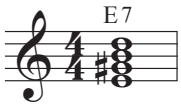
Harmonics

Whenever you play a note, numerous other tones are actually sounding simultaneously above that note. These other notes are called **overtones** since they exist "over" that primary tone, which we'll call the **fundamental**. For instance, if you strike the open 6th string, many overtones are sounding above that fundamental E. The first few overtones are shown below:



All of the overtones are related to the fundamental tone by interval. Notice that each subsequent interval gets smaller and that the notes formed by these intervals spell a simple E7 chord: E G# B D.



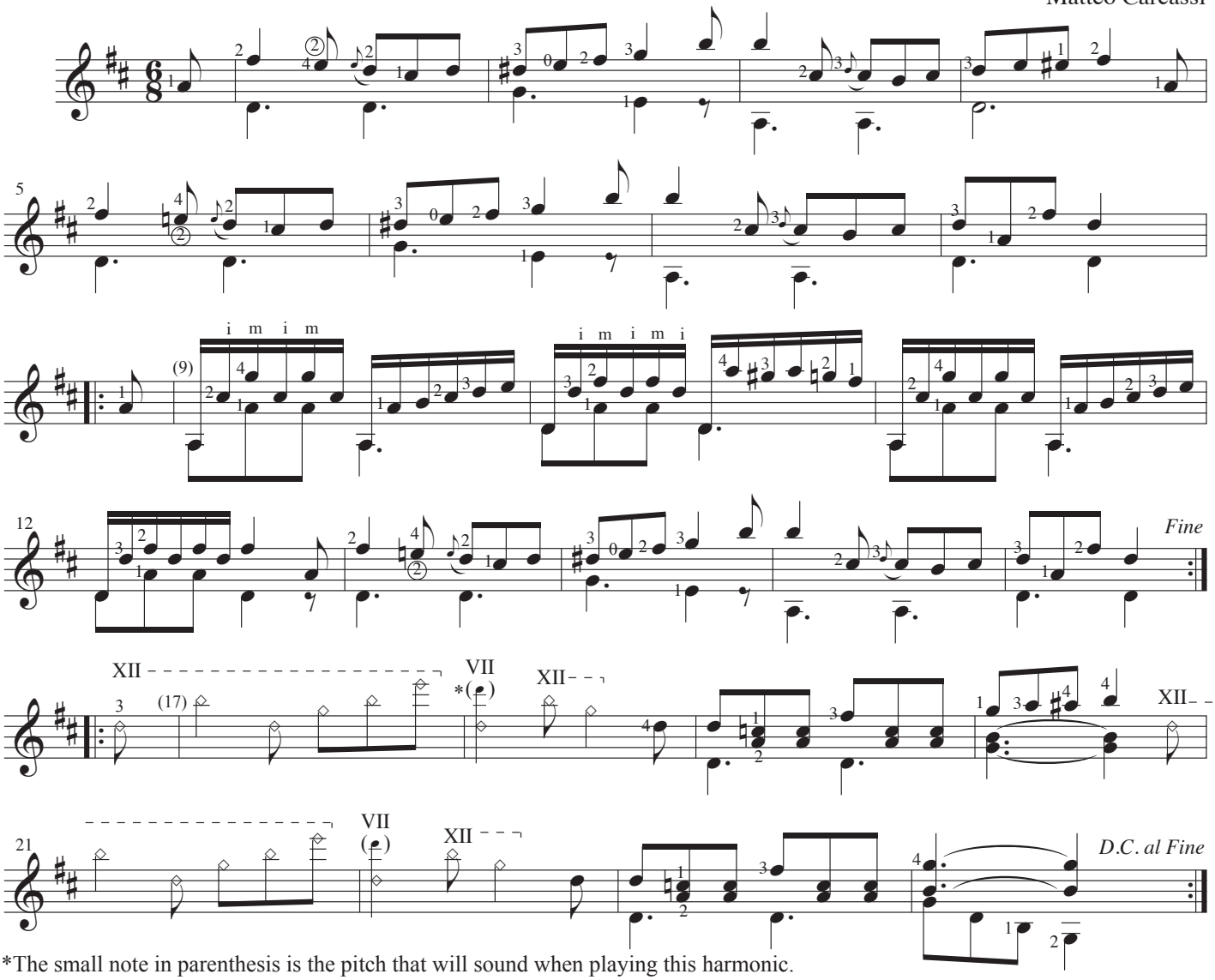
We can isolate each of these overtones so that we can hear them by themselves. The isolated overtones are called **harmonics**. Each harmonic is located at a precise division point on the string. For example, to produce the first overtone, you would strike the string at exactly its half way point, the 12th fret. The second overtone is located at the 1/3 point, the 7th fret. etc.

To sound a harmonic, lightly touch the string over these fractional points, called **nodes**. (The nodes are located on the metal fret.) Harmonics are usually identified by a diamond-shaped note (◇), such as in measure 18 of *Larghetto* below.

Larghetto

(No. 28 from Guitar Method, Op. 39)

Matteo Carcassi



*The small note in parenthesis is the pitch that will sound when playing this harmonic.