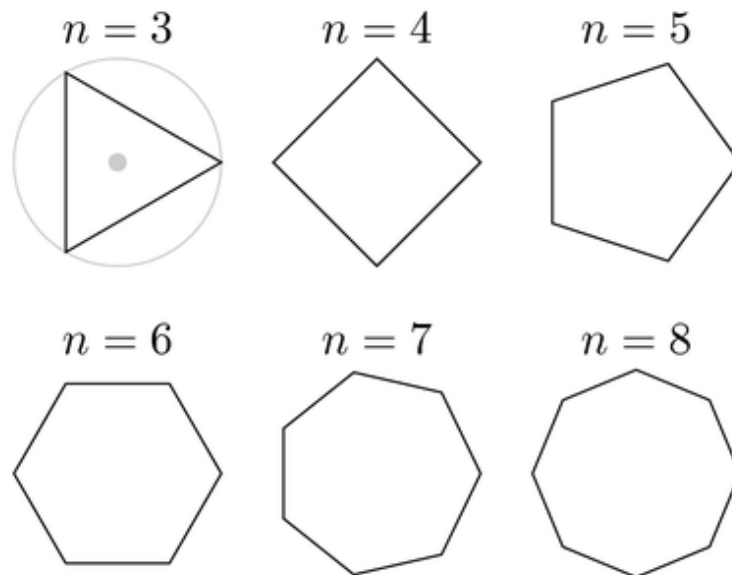


Sonic Geometry

One of the foundational principles of Fractal Fingering has to do with a new way of organizing the notes on the fingerboard so that previously unperceived relationships can be leveraged to create greater pitch consistency and more musical options for left hand technique. The first step is the understanding of where harmonics are arranged on a vibrating string and how that intersects with the placement of closed notes.

A consistent feature of any stringed instrument is that closed notes ascend in pitch as you move up the fingerboard from the nut to the bridge (if this is NOT true for you, you may be dealing with an alternate reality in which case you may need to reorient your plane of existence before proceeding any further with double bass technique). This is due to the gradual shortening of the string length that affects the fundamental pitch of the string and consequently its overtones or “partials”, because the string vibrates in fractional parts in addition to its overall length. When performed by lightly touching the string rather than depressing it to the fingerboard these partials are commonly referred to as “harmonics”. The ratios of the vibrations of the harmonics also correspond to the sum of the interior angles of regular sided polygons, which also happens to correspond to the overtone series on the pitch F# where $A=432$. ($n=3=180$, $n=4=360$, $n=5=540$, $n=6=720$, etc.)



The string is divided in half in the middle at the octave, and harmonics are arranged in a butterfly pattern where any harmonic can be found equidistant from the center in either direction. The 6th partial is the most valuable to us, as it the first fractional length that we

can reach comfortably within the span of the hand from thumb to 3 (again, if this is not the case for you and you can reach the 2nd or 3rd or 4th partial in one handspan, please see the previous comment about “alternate realities”). When compared to the corresponding stopped notes on the fingerboard we get the following sequence: (root), m3, M3, P4, P5, 8ve. This arrangement is fascinating enough when relating to an open string, but it becomes even more valuable when it is understood relative to a stopped note. Any time we stop a pitch on the string we are effectively shortening the string length to that pitch, and all associated ratios and partials are now in effect at the length of that new “open” string. Playing in thumb position on the entire length of the string facilitates this awareness. For example, if you play the E at the heel on the G string with thumb and place the 3rd finger a minor third higher you will reach a G. If you move that entire hand shape (what we will call “Frames” in Fractal Fingering) to where the thumb replaces the 3rd finger over the G, the 3rd finger will now be above a B natural creating a a Frame of a major third. Continue this sequence of replacement, and you will have the Frame of a 4th from B to E, and a 5th from E to B (2nd finger may be a better option than 3 in the higher positions on some instruments). It is worth noting that this allows string players to physically feel and express interval inversion as a consecutive 4th and 5th will not only be an inversion of the pitches of the interval, but it is also the SAME DISTANCE on the string. The first time I experienced this I needed to spend a moment staring blankly into space (probably with a light trickle of drool out of the corner of my mouth, both sides since the stage was level) as it fundamentally upended and restructured how I related to my instrument.

WORKSHOPS PAGE NOW LIVE ON FRACTALBASSIST.COM!!

Friday August 21 @ 9 and 11 AM PDT

The 9AM workshop will be 90 minutes and will cover the materials first presented in the class on the 7th.

The 11AM workshop will be 90 minutes and will move on to new material.

Admission for either of the classes (and a discounted rate for both) is available on the website.

Custom Group Classes and Private lessons are also available. Email: davidallenmoore@fractalbassist.com for more info.

FRACTAL BASSIST Channel on YouTube (Coming Soon!)

This invite-only YouTube channel will be a continuation, development and place to share these ideas and principles. Although the entire Fractal Fingering course and samples are available online and at DiscoverDoubleBass.com, this channel will provide a forum for more in-depth content and to address questions on a more individual basis.

If you have any questions, comments, ideas you'd like explored, or inspiration you'd like to share please email: davidallenmoore@fractalbassist.com.

With Love,

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