A Tour of the Ancient Solfeggio Frequencies

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Purpose of this Presentation

- Compare and contrast the ancient solfeggio frequencies with historical facts.
- Present a quick timeline of historical musical scales, tunings and temperament.
- Garner a basic understand of the overtone series.
- To learn the difference between concert pitch and temperament.
- Biographical information on Horowitz and Puleo.
- Compare/Contrast ancient solfeggio frequencies with Pythagorean tuning, just intonation and equal temperament.
- Tuning to the ancient solfeggio frequencies.
In order to fully understand the ancient solfeggio frequencies, one must read sheet music.
An advanced level of music theory is a must!
Along with theory, there must be an ability to sight sing a piece of unknown music.
One must understand the harmonic (overtone) series and how it works in music.
It’s important to know and understand the difference between temperament and concert pitch.
There must be a basic understanding of historical tunings and why they were used.
Many well-known contemporary musicians and other enthusiasts are agreeing with the Horowitz/Puleo theory on the ancient solfeggio frequencies. Various faith-based organizations are putting out videos quoting the research of Horowitz and Puleo. It’s obvious by watching their videos that they lack understanding of temperament, tuning, overtones, and music theory. Jamie Buturff appears to be one of a few who is providing a plausible alternative. Very few of the articles or videos concerning these frequencies provide accurate historical musical information. Roel Hollander (another trained musician) is the only other accurate source that I can find. (www.roelhollander.eu)
# Timeline

<table>
<thead>
<tr>
<th>74,000 BC</th>
<th>31,000 BC</th>
<th>3,300 BC</th>
<th>1,500 BC</th>
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<tbody>
<tr>
<td>3-note bone Neanderthal flute</td>
<td>5-note bone flute discovered in cave</td>
<td>Sumerian Lyre and Cuneiform tablets</td>
<td>Pythagoras</td>
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<tr>
<td>Diatonic</td>
<td>Diatonic scale</td>
<td>Modal</td>
<td>Harmonic series</td>
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<table>
<thead>
<tr>
<th>800 AD</th>
<th>1000 AD</th>
<th>1600’s</th>
<th>1800’s</th>
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<tbody>
<tr>
<td>Neume – early form of western musical notation</td>
<td>Guido d’Arezzo invents solfege and modern musical notation</td>
<td>Key signatures require various tuning</td>
<td>Industrial Revolution. 12-tone ET standardized 1870’s – Hz assigned</td>
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<tr>
<td>Modal</td>
<td>Diatonic/Modal</td>
<td>Diatonic</td>
<td>Diatonic</td>
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</table>
Howard Goodall’s “Big Bangs” Equal Temperament
Harmonic Series Pitches

Harmonic Series of C

m3  m3  M2  M2  M2  m2  M2  m2  m2  m2

P8  P5  P4  M3

*These pitches will sound out of tune
Harmonic Series Wavelengths
Temperament
Temperament Comparison

CHART 16

G# ≠ Ab (Pythagorean = 729/512)
or ab ≠ g# (Just = 45/32)

G# = Ab (Equal temperament = \sqrt{2})
## Concert Pitch and Temperament

### Just Intervals Scale

<table>
<thead>
<tr>
<th>Note/Interval</th>
<th>Ratio</th>
<th>A=440 Frequency</th>
<th>A=432 Frequency</th>
<th>C=256 Frequency</th>
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<tbody>
<tr>
<td>Tonic</td>
<td>1</td>
<td>264</td>
<td>259.20</td>
<td>256</td>
</tr>
<tr>
<td>Minor 2nd</td>
<td>16/15</td>
<td>281.60</td>
<td>276.48</td>
<td>273.07</td>
</tr>
<tr>
<td>Major 2nd</td>
<td>10/9</td>
<td>293.33</td>
<td>288</td>
<td>284.44</td>
</tr>
<tr>
<td>Minor 3rd</td>
<td>6/5</td>
<td>316.80</td>
<td>311.04</td>
<td>307.20</td>
</tr>
<tr>
<td>Major 3rd</td>
<td>5/4</td>
<td>330</td>
<td>324</td>
<td>320</td>
</tr>
<tr>
<td>Perfect 4th</td>
<td>4/3</td>
<td>352</td>
<td>345.60</td>
<td>341.33</td>
</tr>
<tr>
<td>Augmented 4th</td>
<td>45/32</td>
<td>371.25</td>
<td>364.50</td>
<td>360</td>
</tr>
<tr>
<td>Diminished 5th</td>
<td>64/45</td>
<td>375.47</td>
<td>368.64</td>
<td>364.09</td>
</tr>
<tr>
<td>Perfect 5th</td>
<td>3/2</td>
<td>396</td>
<td>388.80</td>
<td>384</td>
</tr>
<tr>
<td>Minor 6th</td>
<td>8/5</td>
<td>422.40</td>
<td>414.72</td>
<td>409.60</td>
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<tr>
<td>Major 6th</td>
<td>5/3</td>
<td><strong>440</strong></td>
<td><strong>432</strong></td>
<td>426.67</td>
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<tr>
<td>Minor 7th</td>
<td>9/5</td>
<td>475.20</td>
<td>466.56</td>
<td>460.80</td>
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<tr>
<td>Major 7th</td>
<td>15/8</td>
<td>495</td>
<td>486</td>
<td>480</td>
</tr>
<tr>
<td>Octave</td>
<td>2</td>
<td>528</td>
<td>518.40</td>
<td>512</td>
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</tbody>
</table>

### Equal Temperament Scale

<table>
<thead>
<tr>
<th>Note/Interval</th>
<th>Ratio</th>
<th>A=440 Frequency</th>
<th>A=432 Frequency</th>
<th>C=256 Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonic</td>
<td>1</td>
<td>261.63</td>
<td>256.87</td>
<td>256</td>
</tr>
<tr>
<td>Minor 2nd</td>
<td>(2^{11/12})</td>
<td>277.18</td>
<td>272.14</td>
<td>271.22</td>
</tr>
<tr>
<td>Major 2nd</td>
<td>(2^{1/6})</td>
<td>293.66</td>
<td>288.33</td>
<td>287.35</td>
</tr>
<tr>
<td>Minor 3rd</td>
<td>(2^{1/4})</td>
<td>311.13</td>
<td>305.47</td>
<td>304.44</td>
</tr>
<tr>
<td>Major 3rd</td>
<td>(2^{1/3})</td>
<td>329.63</td>
<td>323.63</td>
<td>322.54</td>
</tr>
<tr>
<td>Perfect 4th</td>
<td>(2^{5/12})</td>
<td>349.23</td>
<td>342.88</td>
<td>341.72</td>
</tr>
<tr>
<td>Augmented 4th</td>
<td>(\sqrt{2})</td>
<td>369.99</td>
<td>363.27</td>
<td>362.04</td>
</tr>
<tr>
<td>Diminished 5th</td>
<td>(2^{7/12})</td>
<td>391.99</td>
<td>384.87</td>
<td>383.57</td>
</tr>
<tr>
<td>Perfect 5th</td>
<td>(2^{7/3})</td>
<td>415.30</td>
<td>407.75</td>
<td>406.37</td>
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<tr>
<td>Minor 6th</td>
<td>(2^{3/4})</td>
<td><strong>440</strong></td>
<td><strong>432</strong></td>
<td>430.54</td>
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<tr>
<td>Major 6th</td>
<td>(2^{5/6})</td>
<td>466.16</td>
<td>457.69</td>
<td>456.14</td>
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<tr>
<td>Minor 7th</td>
<td>(2^{11/12})</td>
<td>494</td>
<td>484.90</td>
<td>483.26</td>
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<tr>
<td>Major 7th</td>
<td>2</td>
<td>523.25</td>
<td>513.74</td>
<td>512</td>
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<tr>
<td>Octave</td>
<td>2</td>
<td>528</td>
<td>518.40</td>
<td>512</td>
</tr>
</tbody>
</table>
In the mid-1970’s Dr. Joseph Puleo, a physician and herbalist, found six electro-magnetic sound frequencies that corresponded to the syllables from the hymn to St. John the Baptist.

According to the documentation provided in “Healing Codes for the Biological Apocalypse,” Dr. Joseph Puleo was introduced, through an open vision, to the Pythagorean method of numeral reduction. Using this method, he discovered the pattern of six repeating codes in the Book of Numbers 7:12-83.

Source: www.attunedvibrations.com
Leonard Horowitz

- A retired dentist who affirms himself as being a drug industry whistleblower and wrote the book “Healing Codes for the Biological Apocalypse” along with Joseph Puleo.
- Says that the “Solfeggio frequencies contain the six pure tonal notes which were once used to make up the ancient musical scale, until, it has been presumed, they were altered by the Catholic Church.”
- He is quoted as saying “Our modern day musical scale is slightly out of sync from the original Solfeggio frequencies and is, consequently, more dissonant as it is based upon what is termed the "Twelve-Tone Equal Temperament." In ancient times, the musical scale was called ‘Just Intonation.’”
- **My opinion:** Based on his videos, Leonard doesn’t understand musical concepts. His research on drug conspiracy is likely more accurate than his music research.
- **Source:** www.miraclesandinspiration.com
Ancient Solfeggio Notes

- 396 Hz = G
- 417 Hz = G#
- 528 Hz = C
- 639 Hz = E
- 741 Hz = F#
- 852 Hz = Ab
- (963 Hz = Bb)
"528 cycles per second is literally the core creative frequency of nature. It is love," proclaims renowned medical researcher Dr. Leonard G. Horowitz.
Guido d’Arezzo is credited with inventing solfege around 1,000 AD to teach his students how to sight sing plainchant repertoire.

He is also credited with inventing modern musical notation. Other than a few slight differences, we still use his method of musical notation today.

We know that Guido used the Pythagorean scale, which is what the plainchant repertoire is based on.

He put the poem “Hymn to St. John the Baptist” to a little tune to help his students learn the six note musical scale (much like Julie Andrews did in *The Sound of Music)*.

Guido would have written the tune on the sheet music as he heard it.

Pythagorean temperament is very close to 12-tone ET and just intonation. The “Hymn to Saint John the Baptist” sounds nearly the same today as it did in Guido’s time.
Ut Queant Laxis (Hymn to St. John the Baptist)

Guido of Arezzo
(circa 991-1033)

Ut queant laxis, Resonare fibris, Mirarum gestorum, Famuli tuorum, Solve pollutum, Labi ire a tum, Sancte Johannes.

Translation:
So that your servants may, with loosened voices, resound the wonders of your deeds, clean the guilt from our stained lips, O Saint John.

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version by Matthew D. Thibeault, October 31, 2008
The Problem...

The ancient solfeggio frequencies are extremely varied in the distance between each note (temperament).

The scale is extremely different than either Pythagorean, just, or equal temperament. Some of the intervals between notes are as small as a half step (minor second) and others are as large as a major third.

Distance between intervals (temperament) is what creates a huge discrepancy between the Pythagorean scale and the ancient solfeggio frequency scale. The ancient solfeggio frequencies do not fit within any scale known to musical historians.

There is no evidence of musical instruments, written music, writings of any kind, or historical artifacts that support the claims these tones are a lost scale.
Are These Frequencies a Scale?

If the ancient solfeggio frequencies are indeed a scale and are musical frequencies, they have only been around since the middle of the 20th century.

Composers experimented with changing everything we know about music so... if the angel was showing Joseph Puleo these frequencies in the Bible, instead of being ancient, why couldn’t they be something new?

Bible chapter and verse wasn’t around until around 1450 AD – nearly 500 years AFTER Guido died. It would seem Guido needed these scriptural numbers to “set” the ancient solfeggio frequency scale.
Scale Comparison

Guido's Pythagorean Scale

Ut  Re  Mi  Fa  Sol  La  Ti  Do

Ancient Solfeggio Frequency Scale

396  417  528  639  741  852  963

Hymn to St. John the Baptist as Guido d'Arezzo wrote it:

Hymn to St. John the Baptist with Solfeggio Frequencies:

15
Because Guido was a monk, he would more than likely NOT have used scales outside of Pythagorean tuning due to restrictions on how music could be written (imposed by the Catholic Church).

As a monk, he would have utilized scales, intervals, melodies, and harmonies that were dictated by the Pope himself.

Failure to follow “rules” could have resulted in excommunication from the church. For those who broke rules, they also got to spend a little time in jail. The ancient solfeggio frequencies break the allowable rules for scale and melody writing at the time of Guido.

Scales of this type weren’t used until the 20th century.
Modern musical instruments are made using “equal temperament.” This will not allow a performer to easily switch between the solfeggio frequencies.

You must re-tune for each frequency unless your instrument (usually only electronic keyboards) can also change temperaments.

Wind and brass instruments can make small adjustments up (but not generally down) from A=440.

The “violin family” (violin, viola, cello, string bass) can adjust to a variety of temperaments and tunings.

Fretted instruments (guitar, banjo, etc.) can adjust tuning but not temperament unless frets are moved.
Tuning the Solfeggio Frequencies

- **396** works best at a tuning of **A=445**. It’s a “G” just above middle “C.” The exact frequency is 396.45. If you tune to A=444, it will be quite a bit flat. So, it’s closer to A=445 than A=444.

- **417** works perfectly with a tuning of **A=442**. This is the “G-sharp” or “A-flat” just above middle “C.”

- **528** works perfectly with a tuning of **A=444**. This is the “C” an octave above middle “C.”

- **639** works nearly perfectly at **A=452**. It’s close to an “E” on the 4th space of the treble clef.

- **741** works best with a tuning of **A=441**. It’s the “F-sharp” or “G-flat” on the 5th line of the treble clef. The exact frequency is 741.67 so it will be a bit sharp.

- **852** works best at **A=451**. The exact frequency is 851.38 so it will be a wee bit sharp. It’s an “A-flat” just above the treble clef.
Misconceptions About the Solfeggio Frequencies

- You CAN’T get all the solfeggio frequencies if you tune your instrument to A=432 or A=444. You must adjust for each frequency. *(See chart in previous slide)*
- There is NO credible evidence that these frequencies have anything to do with ancient tuning systems.
- Pythagorean and just intonation have been in use as long as music has been around. Musicians still tune by ear and are able to make necessary adjustments as needed.
- The world switched to 12-tone ET (late 1800’s) so instruments could play in all 24 major and minor keys.
- A=440 concert pitch allowed instrumentalists to play together no matter where you lived in the world. It has nothing to do with Hitler waging war on tuning.
If you want to be credible, don’t swallow what’s said on the Internet. Check the facts before you repeat the information!

Musical intent (the intent of the performer) is very important in determining how music “feels” to the listener.

There appears to be some evidence that musical frequencies do have healing properties.

“Entrainment” (matching frequencies between objects) does appear to be a factor in the healing properties of frequencies.

How the ancient solfeggio frequencies affect the listener all depends on the intent of the performer.

Thoughts have a frequency and matter has memory. Therefore, intent can be embedded into music.

For anything to be truly healing, it’s going to require consistency. Much like taking a prescription drug, any healing protocol will require regularity.
For More Information

- [www.healingfrequenciesmusic.com](http://www.healingfrequenciesmusic.com) for more in-depth articles all things frequency related.

- Sign up for the newsletter and receive a free download of “Beloved Friend” and the “Emotional Roots of Physical Symptoms” chart.

- New information, research studies, information about the healing properties of music, and all of my music are available on the website.

- My instrumental music is recorded in the A=432 and A=444 concert pitches along with other tunings.

- My music includes standard and EMDR formats.

- My music is for sale through my website, iTunes, and Amazon (downloads and CD’s)