With the knowledge that there are 12 intervals in a chromatic scale, the importance of *interval rationales* arises in determining why sacred music is determined to include every region or country that music is performed and composed. The descending scales of the Greeks and the ascending scales of Western Culture, both are brought together and compared as similar, because of the proofs that accompany *interval rational* proofs.

The most common interval to both Greek and Western Music is the tri-tone. Because of *interval rationales*, one can view the overtone series to see the formation of intervals from the fundamental to each overtone in the overtone series. Because the Major Third is found close to the Perfect Fifth and next the Perfect Fourth, the discussion of the tri-tone is not considered a problem, because of *interval rationales*.

Therefore, the tri-tone is found to represent more of the interval of the seventh in both Major and minor scales, with relation to the diatonic, chromatic, and enharmonic proofs of the tetra chord, because of the relationship of the tetra chord to the modes of the church and to the Immutable System of Tonos. With the Immutable System of Tonos found in the Greeks, the tri-tone is found like a major second, because of the use of a V/V in Western Music proving a chord with a Major Third found to be the tri-tone of the I of the V.

Because of the proof that with the use of *interval rationales* that the tri-tone is more of a seventh in the modes of the Western Culture or the Proslambanomenos of the Greater Perfect System of the Greeks, the tri-tone proves that the Major Third is not a perfect consonance, agreeing with church music of the Western Culture and, thus, both Greek and Western Music are proven to have *interval rationales* that have distinct proofs of both mind and reason in music theory and music proof.

2. Intervals and Interval Rationales.

The circle of fifths shows the relationship of the relative major and the relative minor keys. In application, one can show how the fifth of the relative minor key becomes the third of the relative major key, thus, a proof for the case of the major third being an extended interval arises. This proof is based on the history of dominant chords in the music defined by the church. Since the I, IV, and V chords are perfect and dominant, then the intervals which are found in these chords (ie. III and iii) can be viewed for further study.

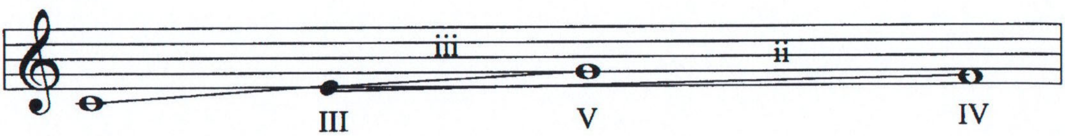
The case for interval rationales in music can be found by referring to the overtone series.

Upon reference to the overtone series one can see that the occurrence of the perfect fifth, perfect fourth, and major third are found after the statement of the fundamental pitch of an octave. The occurrence of the minor third, major second, and minor second are found after the statement of the former intervals in the series. Why give interval rationales to musical intervals? This question has many answers, so, I will try to explain why this could be important to people in the profession of making music. My answer si based on mathematics and nature. In Mendel's pea pod experiments he found a ratio of one dominant, two dominant/recessive, and one recessive gene traits (1:2 :1) based on the color of pea pod flower petals. These traits produced a whole school in science called genetics. Since genetics was founded on light, and light is found in nature as well as sound, then light and sound might be found to have similarities found through mathematics.

In harmonic music there are twelve intervals. After studying these intervals in depth for the past decade, I have found that although different styles of music use the intervals in different ways there is an order of occurrence in the overtone series which adds to a simple observance of the blocks we build intervals with. The pattern of 3:6:3 is proportional to that of Mendel's basic statement 1:2:1.

III, IV, V : iv^{+}/v^{0}, vi, VI, vii, VII, VIII : ii, II, iii

Intervals:



3. The Tritone and the Leading Tone.

Using middle C as the origin pitch, the chord created by using the end notes of V + V, IV + IV, and III + III is that of a seven chord in inversion. (This happens to be the V^7 of E-flat major or the VII^7 of c-minor.) One may also see that the chord produced has the same spelling of the extended/compressed intervals used to form interval rationales of the tritone (II + III). Upon further observation, one can see the connection to the following:

1	ii x ii =		ii
2	II x II =		III
3	iii x iii =		VI
4	III x III =	+	X

The interval of a tritone.

Since the number ten has been used by the Greeks, being thought of as most important by the Pythagoreans, then one can rationalize the importance of both the V and IV intervals including to them, as well, the interval of the major third (III + IV + V = X).

Another appearance of the tritone relationship can be found in the key signatures of E-flat major and A major or c-min and f-sharp min. A relationship might be found between the tritone and a dominant seven chord in inversion (ii + II + iii + III = vii).