INTRODUCTION

This album features both new, original compositions for solo lyre & in my efforts to strive to reach nearer to the timeless perfection of the Music of the Spheres, “A Well Tuned Lyre” also features the development of some of my previous arrangements for lyre of the actual music of ancient Greece as heard in my album “The Ancient Greek Lyre” - transformed in this new compilation, by the use of the pure just intonation tuning system of antiquity...
According to the ancient Greeks, as found in the writings of both Pythagorous & Plato, *music literally reflected the harmony of the Universe* – to them, the mathematical proportions of musical intervals were Universal Truths, as the Laws of Geometry – these truths are in philosophical terms, *“Apriori”* – even if there was no time or space & no creator of the Universe, the mathematical proportions of musical intervals would still be timelessly the same, just as the angles of a triangle would always, timelessly, add up to 180 degrees.

For the ancient Greeks, the harmony of the Universe to which the proportions of the musical intervals so reflected, was the concept of the Seven Celestial Spheres:

“The celestial spheres, or celestial orbs, were the fundamental entities of the cosmological models developed by Plato, Eudoxus, Aristotle, Ptolemy, Copernicus and others. In these celestial models the stars and planets are carried around by being embedded in rotating spheres made of an aetherial transparent fifth element (quintessence), like jewels set in orbs. Since the fixed
stars did not change their positions relative to each other, it was argued that they must be on the surface of a single starry sphere”

http://en.wikipedia.org/wiki/Celestial_spheres

The concept of the “Music of the Spheres” is also referred to as “Musica Universalis” :

“Music of the Spheres incorporates the metaphysical principle that mathematical relationships express qualities or ‘tones' of energy which manifest in numbers, visual angles, shapes and sounds – all connected within a pattern of proportion. Pythagoras first identified that the pitch of a musical note is in proportion to the length of the string that produces it, and that intervals between harmonious sound frequencies form simple numerical ratios.[1] In a theory known as the Harmony of the Spheres, Pythagoras proposed that the Sun, Moon and planets all emit their own unique hum (orbital resonance) based on their orbital revolution,[2] and that the quality of life on Earth reflects the tenor of celestial sounds which are physically imperceptible to the human ear.[3] Subsequently, Plato described astronomy
and music as "twinned" studies of sensual recognition: astronomy for the eyes, music for the ears, and both requiring knowledge of numerical proportions"

http://en.wikipedia.org/wiki/Musica_universalis

This concept of the “Music of the Spheres” is further discussed in depth in the following fascinating article by Stephanie Chase:

“Pythagoras and his followers believed that a universal philosophy could be founded in numbers. They differentiated three types of music: the music of instruments, the music of the human body and soul, and the music of the spheres, which was the music of the cosmos.

The phrase “music of the spheres” refers to the intertwined relationship between the structures of music and those of the physical world, and a conscious awareness of mystical or spiritual qualities being transmitted through composed sound.

According to Pliny, Pythagoras devised a literal “music of the spheres” by using musical intervals to describe the distances between the moon and the known planets. In his Timaeus, Plato took up the idea of a universal philosophy thorough numbers and their musical associations and devised a series that he termed the World Soul: 1, 2, 3, 9, 8, and 27. By using these as musical ratios (1:2, 2:3, 3:9, etc.) he created a series of musical notes that gave a default mathematical ratio for the half-step.

http://www.musicofthespheres.org/Whatismots.htm
Building on the principles of the timeless proportions of musical intervals reflecting the harmony of the Universe, the Pythagoreans also took the concept of the Universal proportions of musical intervals to also reflect the proportions & principles of Justice, like a “well tuned lyre”:

“The Pythagoreans (among whom Plato must be counted) perceived a fundamental relationship between proportion and the principle of justice, in which "each part of the whole receives its proper due." They believed that the essential nature of justice could be understood through the study of continuous geometrical proportion (analogia) and through the study of the mathematical ratios of the musical scale, in which the two extremes of the musical scale are bridged through various types of mathematical proportion. Central to the Greek concept of proportion is the idea of finding "means" or types of
mediation between extremes. In tuning theory, the Pythagoreans identified the arithmetic, geometric, and harmonic means which underlie the musical scale, as well as the perfect consonances of music, which are mathematical ratios: the octave (1:2), the perfect fifth (2:3), and the perfect fourth (3:4). The Pythagoreans likened a just and well-ordered society to a well-tuned lyre. While each note retains its individuality, all are proportionally linked together in a larger whole to form a musical scale, and all are interdependent in terms of their reliance on one another. (See Plato, Republic 443 D–444)”

(http://science.jrank.org/pages/10928/Pythagoreanism-Number-Cosmos-Harmony.html)

THE JUST INTONATION OF ANTIQUITY

Contrasting with the modern use of equal temperament, in antiquity, the universal proportions of musical intervals were in a ratio known as “just intonation” - a well-tuned lyre was tuned with crystal purity in just intonation, not the slightly out of tune modern equal temperament, to which the modern listener is so sadly accustomed to in the present era!

In just intonation, the pitch ratios between each semitone are very slightly different between each semitone, depending on the starting note of the scale.

The modern tuning system of equal temperament was devised to enable music to be performed in any of the 12 keys of the chromatic scale whilst artificially keeping an equal ratio of pitch between each of the 12 notes of the chromatic scale - which sadly has sacrificed the essential purity of tone, which can only be heard in the just intonation once used in antiquity. The annoying impurity of modern equal temperament can best be heard by the trained ear, when listening to the “woowoowoowoo” sounding beat waves generated by these artificially imposed equal temperament musical ratios, whenever a triad is played on a piano.

Below is a quote from Wikipedia, further explaining the basic difference between just intonation & equal temperament:

"In music, just intonation is any musical tuning in which the frequencies of notes are related by ratios of whole numbers. Any interval tuned in this way is
called a just interval; in other words, the two notes are members of the same harmonic series.

Justly tuned intervals are usually written either as ratios, with a colon (for example, 3:2), or as fractions, with a solidus (3/2). Colons indicate that division is not done, so it is the preferred usage in music: In practice, two tones, one at 300 Hertz (cycles per second), and the other at 200 hertz is a perfect fifth (3:2).

Just intonation can be contrasted and compared with equal temperament, which dominates western orchestras and default MIDI tuning. Equal temperament starts by arranging all notes at multiples of the same basic interval, but the intervals themselves are altered slightly, relative to just intonation. Each interval possesses its own degree of alteration. The process results in a tuning system where all intervals will have exactly the same character in any key."

http://en.wikipedia.org/wiki/Just_intonation

I tune my lyre to just intonation by the method of Divisive Tuning. Although described in the writings of Pythagoras in his experiments at dividing a musical monochord, the divisive tuning system predates Pythagoras by thousands of years and may have evolved along with the origin of the long-necked lute in ancient Babylonia some 5000 years ago, according to John Wheeler:

"The long-necked lute (according to Curt Sachs) was invented in Babylonia, and indeed thanks to that fact divisive tuning was invented there also. Cyclical tuning was also known there (and that got documented long after his death by the famous theory and hymn tablets from Babylon and Ugarit), but there is this curious fact: the Babylonians used divisive tuning as the basis for their symbolic correlation of the pillar degrees of the octave (e.g., C-F-G-C') with the four seasons, while the Chinese used cyclical tuning as the basis for the symbolic correlation of the same. This (wrote Sachs) is consistent as Babylon was the "home" of the lute and China the "home" of the harp (even though Babylon knew of harps and lyres too and China, if memory serves, also knew the lute from very early times). Divisive tuning is the "natural" tuning of the lute, as cyclical tuning is the "natural" tuning of the harp and lyre, according to Sachs. By that he meant that it's easiest and most natural to tune, and then to play, folk instruments of those genres that way - as I can vouch as a working musician"
All the pieces in “A Well Tuned Lyre” use this sadly forgotten tuning system of just intonation – to try and evoke once more, the purity of the ancient Greek ideal of “The Music of the Celestial Spheres”...

THE ANCIENT GREEK MODES

All the tracks in this album feature the use of the original ancient Greek Modes. The names of musical modes in use today, (e.g. Dorian, Mixolydian etc) although having the same names as the original Greek musical modes, were actually misnamed during the Middle Ages! Apparently, the Greeks counted intervals from top to bottom. When medieval ecclesiastical scholars tried to interpret the ancient texts, they counted from bottom to top, jumbling the information. The misnamed medieval modes are only distinguished by the ancient Greek modes of the same name, by being labelled “Church Modes”. It was due to a misinterpretation of the Latin texts of Boethius, that medieval modes were given the wrong Greek names!

According to an article on Greece in the New Grove Dictionary of Music and Musicians, the original ancient Greek names for species of the octave included the following (on white keys):

B-B: Mixolydian
E-E: Dorian
A-A: Hypodorian
D-D: Phrygian
G-G: Hypophrygian
C-C: Lydian
F-F: Hypolydian

For what Plato & Aristotle had this to say about these ancient musical modes, please see this fascinating link:

http://www.pathguy.com/modes.htm
More interesting reading can be found at:

http://www.midicode.com/tunings/greek.shtml

THE TRACKS

1. Music of the Celestial Spheres (Original Composition for Solo Lyre in the Just Intonation of Antiquity)

This piece is in the ancient Greek Dorian Mode – one of the favourite modes of the ancient Greeks, one of the qualities of this Mode, was thought to increase powers of concentration...

2. Vapours of Delphi (Original Composition for Solo Lyre in the Just Intonation of Antiquity)

This piece is in the evocative ancient Greek Phrygian mode – in this piece, I try to convey the ancient mystery of the Vapours of Delphi:

“When the ancient Greeks and Romans had a question of great import, they travelled to the navel (omphalos) of the world, which they believed to be at Delphi, on the steep slopes of Mount Parnassus in Greece.

Mount Parnassus was Apollo’s mountain — the mountain of wisdom and music, the place where Apollo had given Orpheus his lyre and taught him to play it, a place that other artistic places (such as Montparnasse in Paris) still try to evoke today.

They climbed up the Sacred Way, past about 3,000 statues and various temples and shrines, until they reached the Temple of Apollo. Because Apollo could see the future, he would have the answer to any question, here at his temple.

And he gave his answer through a woman, the Pythia. She would sit above a chasm in the rock through which the god sent vapours (pneuma) that put the woman in a trance. Thus possessed, the Pythia would babble, and priests were at hand to transcribe her words into beautiful hexameter which they gave to the individual who had asked a question”

3. A Well Tuned Lyre (Original Composition for Solo Lyre in the Just Intonation of Antiquity)

This piece is a heterophonic development of an earlier composition of mine, originally called “Apollo’s Lyre” (track 1 of my album of the same title, composed in the ancient Greek Hypophrygian Mode. This is one of my personal favourite compositions. In this new arrangement, the tone is dramatically improved by my new hand-made lyre & the purity of the use of just intonation brings this piece one step closer, to the Music of the Spheres!

4. Lament of Simonides (Ancient Greek Musical Fragment Arranged for Solo Lyre in the Just Intonation of Antiquity)

This lovely melody, also written in the ancient Greek Hypophrygian Mode, can possibly be attributed to the ancient Greek poet & musician, Simonedes of Ceos. Simonides of Ceos (ca. 556 BC-469 BC) was one of the 9 great Greek lyric poets. He was born at Loulis on Kea. During his youth he taught poetry and music, and composed paeans for the festivals of Apollo. He was included, along with Sappho and Pindar, in the canonical list of nine lyric poets by the scholars of Hellenistic Alexandria. Further details can be found at:

http://www.mlahanas.de/Greeks/Bios/SimonidesOfCeos.html

The lyrics:

Ἀνθρωπος ἐὼν μήποτε φάσηις
ὅ,τι γίνεται αὖριον,
μηδ᾽ ἄνδρα ἰδὼν ὀλβιον,
ὅσον χρόνον ἔσσεται·
ὡκεῖα γὰρ σω从来 ταυτοπερᾶγου μυίας
οὔτως ἂ μετάστασις
In English:

"You are a human, therefore seek not to foretell
what tomorrow may bring,
nor how long ones happiness may last.
For not even the flutter of the fly's wing
is as fast as change"

5. Ancient Greek Musical Fragment (Kolon Exasimon, Anonymi Bellermann 97- Arranged for Solo Lyre in the Just Intonation of Antiquity)

This beautiful melody, written in the haunting ancient Greek Hypolydian Mode was preserved in several Byzantine manuscripts - Conspectus Codicum:

V. Venetus Marcianus appl. cl. VI, saec. XIII-XIV
N. Neapolitanus graecus III. C4, saec. XV
F. Florentius Ricc. 41, saec. XVI

6. Ancient Greek Musical Fragment (Poem. Mor 1, 11f. Migne 37, 523 - Arranged for Solo Lyre in the Just Intonation of Antiquity)

This brief fragment of ancient Greek melody, in the mournful ancient Greek Hypodorian Mode, was preserved in several Byzantine manuscripts - Athanasius Kircher (+1680), Musurgia Universalis 1650. Schema Musicae Antiquae. "Bibl. S.Salvatore, Messina, Silicia", "Bibliothecam Graecis Manuscriptus", 17th century.

7. Epitaph of Seikilos (1st Century CE - Arranged for Solo Lyre in the Just Intonation of Antiquity)

Engraved on an ancient Burial Stele at Tralles, Asia Minor, this beautiful melody was discovered and published by Ramsay, 1883. Musical signs deciphered by Wessley, 1891. The stone itself, long preserved in the collection
of Young at Doudja, disappeared after the burning of Smyrna (September 1923). It is now in the Copenhagen Museum, Inv. No. 14897:

This song, written in the ancient Greek Hypophrygian Mode, is so far, the oldest complete piece of music ever found - unlike the other precious shards of ancient Greek music which have survived; this piece is unique, as it survived in its entirety. The ancient Greek burial stele on which it was found bore the following epitaph:

"I am a portrait in stone. I was put here by Seikilos, where I remain forever, the symbol of timeless remembrance".

The timeless words of the song are:

"Hoson zes, phainou
Meden holos su lupou;
Pros oligon esti to zen
To telos ho chronos apaitei"

Translation - "While you live, shine
Don't suffer anything at all;
Life exists only a short while
And time demands its toll"
8. The First Delphic Hymn to Apollo (c.128 BCE - Arranged for Solo Lyre in the Just Intonation of Antiquity)

This substantial fragment of ancient Greek music, written mostly in the ancient Greek Hypolydian Mode, was discovered inscribed on a slab of marble in May 1893, in the ruins of the Treasury of the Athenians at Delphi. The Hymn is now preserved in the Museum of Delphi: Delphi Inv. No. 517, 494, 499.

There are two Delphic Hymns that have been discovered, and they were dedicated to the god Apollo. The two Delphic Hymns have sadly not survived in their complete form. However, they do survive in substantial fragments...giving just a tantalizing taste of the glory of the tragically lost, magnificent musical culture of ancient Greece.

The two Delphic Hymns were traditionally dated c.138 BC (the year of the Pythian Games, dedicated to the god Apollo) and 128 BC (The year of the Pythian Festival, dedicated to the god Apollo). However, more recent musicological research may indicate that both Hymns were actually written in 128 BCE, the year of the Pythian Festival:

"They were long regarded as being dated circa 138 BCE and 128 BCE, respectively, but recent scholarship has shown it likely they were both written for performance at the Athenian Pythaiades in 128 BCE (Pöhlmann and West 2001, 71–72). If indeed it dates from ten years before the second, the First Delphic Hymn is the earliest unambiguous surviving example of notated music from anywhere in the western world whose composer is known by name."

(http://en.wikipedia.org/wiki/Delphic_Hymns)

According to this more recent scholarship, the composer’s name of the First Delphic Hymn was "Athénaios Athenaiou" (Athenios son of Athenios)

The First Delphic Hymn is written in the unambiguous alphabetical musical notation system used in ancient Greece, whereby alphabetical notation describing the pitch of the melody, is written above the text of the song. The rhythm can easily be inferred from the syllables of the text.

This ancient Greek musical notation can be clearly seen in the image below, of the actual First Delphic Hymn, as it was found, inscribed in marble:
The translation of the fragment of text which has survived of the First Delphic Hymn to Apollo is as follows:

"Hear me, you who posses deep-wooded Helicon,
   fair-armed daughters of Zeus the magnificent!
Fly to beguile with your accents your brother,
golden-tressed Phoebus who, on the twin peak of this rock of Parnassus,
   escorted by illustrious maidens of Delphi,
sets out for the limpid streams of Castalia, traversing,
   on the Delphic promontory, the prophetic pinnacle.
Behold glorious Attica, nation of the great city which,
   thanks to the prayers of the Tritonid warrior,
occupies a hillside sheltered from all harm.
On the holy alters Hephaestos consumes the thighs of young bullocks,
mingled with the flames, the Arabian vapor rises towards Olympos.
The shrill rustling lotus murmurs its swelling song, and the golden kithara,
the sweet-sounding kithara, answers the voice of men.
And all the host of poets, dwellers in Attica, sing your glory, God,
famed for playing the kithara, son of great Zeus,
beside this snow-crowned peak, oh you who reveal to all mortals
the eternal and infallible oracles.
They sing how you conquered the prophetic tripod
guarded by a fierce dragon when, with your darts
you pierced the gaudy, tortuously coiling monster,
so that, uttering many fearful hisses, the beast expired.

They sing too, . . ."

ANCIENT LYRE-PLAYING TECHNIQUES

The lyre-playing techniques heard in this album, are authentically based on
lyre-playing styles which have remarkably survived from Antiquity & which still
can be heard today in the amazing lyres still played throughout the continent
of Africa, where unlike the rest of the Western world, a precious remnant of
the cross-cultural influences from the around ancient world have miraculously
survived.

Some of these lyre-playing techniques include the “block & strum” method,
still practiced today by the Krar Lyre players of Eritrea in East Africa – this
technique allows the player to strum rhythm & basic chords on the lyre, similar
to an acoustic guitar:
This technique entails blocking strings with the left hand which are not required and leaving open only the strings which form the required intervals, which then can be strummed with a plectrum in the left hand.

Ancient illustrations of Kithara players seem to infer that this technique was also prominent in Ancient Greece – many illustrations clearly depict the left of the lyre player blocking/dampening the strings with the left hand whilst strumming the open strings with a plectrum in their right hand:

I also demonstrate all the possible styles available on the Kithara. These include the use of tremolo (based on the style of Egyptian Simsimiyya Lyre Players still heard today), alternating between harp-like finger plucked tones played with the left hand, and guitar-like plectrum-plucked tones with the right hand, using basic finger-plucked intervals/chords with the left hand to form a basic harmonic background for the melodic line being played with the plectrum in the right hand (the surviving fragments of Ancient Greek music clearly imply a basic harmonic tonality to these ancient melodies (as opposed to simple folk melodies which can simply be accompanied by a drone).
ACKNOWLEDGEMENTS

Special thanks to John Wheeler, for providing me with the set of divisively tuned MIDI tones to tune my lyre to in the recording of this album, as generated by SCALA computer software.