

# The Mathematics of Harmony and Resonant States of Consciousness

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**Abstract:** *Is it possible that the human body is like a tuning fork capable of going into attunement or resonance with fundamental ratios that give rise to blissful connection – states of quantum coherence resulting in deep insights, even samadhi or cosmic consciousness? To those who know how to approach her, Nature will lift her veil revealing a stunning system of elegant aesthetic delights. The Mathematics of Harmony appearing at the center of it all, the Golden Section may well be the foundation of the*

*most beautiful ratio in Nature, and the very bond that holds everything together through ratio, resonance and self-similar harmony at all levels. Recognized in the mystery traditions of Ancient Egypt and Classical Greece, the Mathematics of Harmony's ubiquitous presence in all things provides the means for our progressive unfoldment into higher states of consciousness, in what the ancients referred to as initiation into the mysteries. There are a variety of transformative techniques; here we include Theurgy, Gematria, and Imiaslavie (Name Worshipping). They demonstrate a variety of paths of resonance based upon nature's Mathematics of Harmony.*

**Keywords:** Resonance, Consciousness, Golden Section, Root Ratios, Theurgy, Gematria, Phyllotaxis, Imiaslavie, Microtubules, Clathrins, Samadhi.

## 1. INTRODUCTION

Evidence in the sciences has been mounting that there is an underlying mathematics of harmony in nature (Stakhov, 2009). It appears that certain ratios e.g.  $\sqrt{2}$ ,  $\sqrt{3}$ ,  $\sqrt{5}$ , and particularly the golden ratio are central to this harmonics. Throughout nature adjacent Fibonacci numbers approximate the golden ratio. The chaos border, fine structure constant, and quark masses, as established by El Naschie, are functions of the golden ratio (El Naschie, 2011; Olsen 2006). In fact, in 2010, the golden ratio or  $\Phi$  was found at the core of quantum mechanics (Coldea, Tennant, et al., 2010). Penrose and Hameroff provocatively suggest that consciousness emerges through the quantum mechanics of microtubules (Penrose and Hameroff, 2011). And microtubules are composed of 13 tubulin dimers exhibiting an 8:5 phyllotaxis. Clathrins, located at the tips of microtubules, are truncated icosahedra abuzz with golden ratios (Olsen 2006). And DNA in both its decagonal structure and its Fibonacci guided nucleotide organization exhibits a golden ratio or  $\Phi$  resonance (Petoukhov and He, 2011; Perez, 2009; Yamagishi and Shimabukuro, 2008).

These ratios and proportions, which are nothing less than sacred, may be accessed through a variety of methods. These include geometric constructions (whether drawing, painting, sculpting, model building or architecture); contemplation of nature's forms (flowers may be the most obvious, but plants in general, animals, minerals, beauty of the human form, and microscopic or telescopic observations); listening to or creating harmonic sounds (music, singing, chanting of words and names, or drumming); and even visualization of harmonic ratios.

## 2. THEURGY

Theurgy, or “divine working” is an ancient technique for the transformation of consciousness by achieving *resonant identification* with the Divine energies present throughout nature and the cosmos. Fortunately, fragments exist from one of the leading exponents, Syrian Neoplatonist, Iamblichus (c. 245CE – c. 325CE). A sincere follower of Pythagoras and Plato, he was a spokesperson for the ancient mystery traditions. His treatise *Theurgia*, was known in antiquity as *On the Egyptian Mysteries*. And he clearly perpetuates the central role of the golden ratio when he refers to the *primordial scission*: “God produced matter out of the *scission* of materiality from substantiality.... [and] molds it into forms and organizes it according to *numerical ratios*... God’s ‘rhythmic weaving’ of *monadic* and *dyadic archai*.” (Shaw, 1967, pp. 29 & 30)



Figure 1: *Iamblichus*.

According to Iamblichus, the objective of the theurgist was to use ritual actions to resonantly identify with aspects of the Divine Source. This was accomplished through recognition of the numinous tokens or “signatures” of the Divine present in our world, progressively ascending to the non-material “ratios and proportions” that ultimately would lead the soul back to the Divine Source Itself, the One.

Iamblichus referred to these numinous cues, tokens or “signatures” of the Divine as “sunthemata,” and organized them into a three-fold hierarchy. (A) The lowest or material level of stones, plants, animals and other objects of nature could help ease life’s pain. (B) Sounds, chanting of names or visual images could be used for purification. (C) At the subtlest level, sacred geometric shapes, ratios and proportions could join the soul with the archetypal realm of numbers, bringing it closer to the One. Iamblichus recognized this as an alchemical transformation of consciousness involving fire, if not

kundalini! “The goal of all... theurgic ritual was ‘the ascent to the intelligible Fire’ and theurgists, Iamblichus says, ‘are true athletes of the Fire.’” [Shaw, 1967, p. 228]

### 3. GEMATRIA

Gematria is a coded system in which **letters** of the alphabet are simultaneously **numbers**. And therefore the words they form are numbers, and intriguingly sometimes equate to particular **ratios** or **logoi**. Thus words, names and phrases may have been purposefully created to encode sacred numerical values. In other cases two words in relation to each other can produce a special ratio. This is true with Sanskrit, Hebrew, Greek and Arabic languages.

In his masterful work on Greek gematria, David Fideler writes: “To the ancient philosophers and cosmologists, the universe physically reflects the ‘Word’ or Logos of creation: an ordered matrix of harmoniously arranged principles which, when viewed as a unity, is the living manifestation of the Absolute.... The names of the gods were designed to resonate on many levels, mirroring the mathematical principles behind creation.... They were composed to relate to one another through a hierarchy of natural relationships based upon the primacy of the geometrical principles and ratios.” (Fideler, 1993, p. 206]

Vibrational Frequency	Note	Exact Frequency Value	Greek Gematria Value (Note: Gematria Value Equivalences allow for $\pm 1$ , thus e.g. 706 or 708 = 707)	$\sqrt{2}$ Equivalences (multiply by 1000)
10	E2	1768.75	1768 = THE GOD APOLLO + HERMES = APOLLO + THE GOD HERMES	$(10/8)\sqrt{2}$
9	D2	1591.875	1592 = APOLLO + LYRE	$(9/8)\sqrt{2}$
8	C2	1415	1415 = THE GOD APOLLO	$(8/8)\sqrt{2}$
7	B flat	1238.125	1238 = THE GOD HERMES + LYRE	$(7/8)\sqrt{2}$
6	G1	1061.25	1061 = APOLLO	$(6/8)\sqrt{2}$
5	E1	884.375	884 = HERMES + LYRE	$(5/8)\sqrt{2}$
4	C1	707.5	707 = THE GOD HERMES	$(4/8)\sqrt{2}$
3	G	530.625	531 = LYRE	$(3/8)\sqrt{2}$
2	C	353.75	353 = HERMES	$(2/8)\sqrt{2}$
1	C	176.875	UNITY; The Fundamental Tone; The Unplucked String	$(1/8)\sqrt{2}$

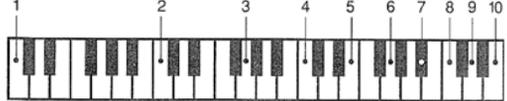


Figure 2: The Overtone Series and its Relation to Greek Gematria  
Adapted from Fideler.

Striking examples include the gods Zeus, Apollo and Hermes. Apollo and Hermes are both gods of music, sons of Zeus, and represent harmony and reciprocity. Hermes gives Apollo the lyre (the first musical instrument), and Apollo gives Hermes the caduceus (the wand of the Mysteries). The name, THE GOD APOLLO ('Ο ΘΕΟΣ ΑΠΟΛΛΩΝ) = 1415. In gematria this is identified with  $\sqrt{2} = 1.414\dots$  Likewise, THE GOD HERMES ('Ο ΘΕΟΣ 'ΕΡΜΗΣ) is 707 by gematria. This is identified with  $\sqrt{2}/2 = .707\dots$  See Figure 2, the Table identifying the sacred names with the overtones and notes on the piano. This procedure is also carried over into Christianity where the ratio of Christ (ΧΡΙΣΤΟΣ) to Jesus (ΙΗΣΟΥΣ) is 1480:888, a precise Fibonacci approximation to the Golden Ratio of  $5:3 = 1.666\dots$

#### 4. NAME WORSHIPING AND RESONANCE

Name worshiping, or *imiaslavie*, was a secret practice for some of those enrolled in the Moscow School of Mathematics, famous for its work towards understanding infinity and set theory. Under the leadership of Dimitri Egorov, Father Pavel Florensky and Nikolai Luzin, they would pronounce their name(s) for God, entering the “Jesus prayer trance,” in an effort to achieve resonant states of visionary consciousness. This was undertaken to deepen their understanding of higher mathematical concepts, like infinity. Considered a heresy, they were banned and persecuted by both the Orthodox Church and the Communist authorities (Graham and Kantor, 2009). In a similar manner, the Hindu Brahmin Ramanujan entered into resonance with Narashima, the 4<sup>th</sup> Avatar of Vishnu, receiving visions of some of the most fascinating equations.

The brilliant visionary Indian mathematician Srinivasa Ramanujan (1887-1920) produced amazing continued fractions interlinking  $\Phi, \pi, \sqrt{5}$  and  $e$ , as in Figures 3 and 4. Not unlike the members of the Moscow School of Mathematics, Ramanujan attributed his uncanny, if not inexplicable success, to his mystical orientation. He would seek connection and inspiration from his family Goddess, Namagiri. When the *resonant connection* was successful, he said he would have visionary dreams of drops of blood that symbolized her male consort, the Lion-Man Narashima, 4<sup>th</sup> incarnation of Vishnu. Ramanujan would then receive visions of scrolls with complex mathematical equations unfolding before him. He stated that: “An equation for me has no meaning, unless it represents a thought of God.” Perhaps only mystics in *quantum coherent resonance* with higher consciousness are capable of receiving such incredible

revelations. Here are two fascinating continued fraction identities purportedly resulting from Ramanujan's divine inspiration.

$$\frac{1}{(\sqrt{\Phi\sqrt{5}})e^{2\pi/5}} = 1 + \frac{e^{-2\pi}}{1 + \frac{e^{-4\pi}}{1 + \frac{e^{-6\pi}}{1 + \frac{e^{-8\pi}}{1 + \frac{e^{-10\pi}}{1 + \dots}}}}}$$

Figure 3: First Continued Fraction Identity.

$$\frac{1}{\left\{ \frac{\sqrt{5}}{1 + \left[ 5^{3/4} (\Phi - 1)^{5/2} - 1 \right] - \Phi} \right\} e^{2\pi/\sqrt{5}}} = 1 + \frac{e^{-2\pi\sqrt{5}}}{1 + \frac{e^{-4\pi\sqrt{5}}}{1 + \frac{e^{-6\pi\sqrt{5}}}{1 + \frac{e^{-8\pi\sqrt{5}}}{1 + \frac{e^{-10\pi\sqrt{5}}}{1 + \dots}}}}}$$

Figure 4: Second Continued Fraction Identity.

## 5. CONCLUSION

Each of the techniques thus described, appear to be centered in the mathematics of harmony underlying nature. Humans may well be hardwired for attunement with the ratios underlying form and function. Like tuning forks seeking union or resonance, such resulting transformative states of bliss have traditionally led to expanded states of awareness. Perhaps Siddhartha Gautama was right, the body is an eye. And when in a state of quantum coherence with nature's divine ratios, one may even achieve the yogic state of Samadhi, or cosmic consciousness, blissful union or entrainment with the consciousness of the universe itself.

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