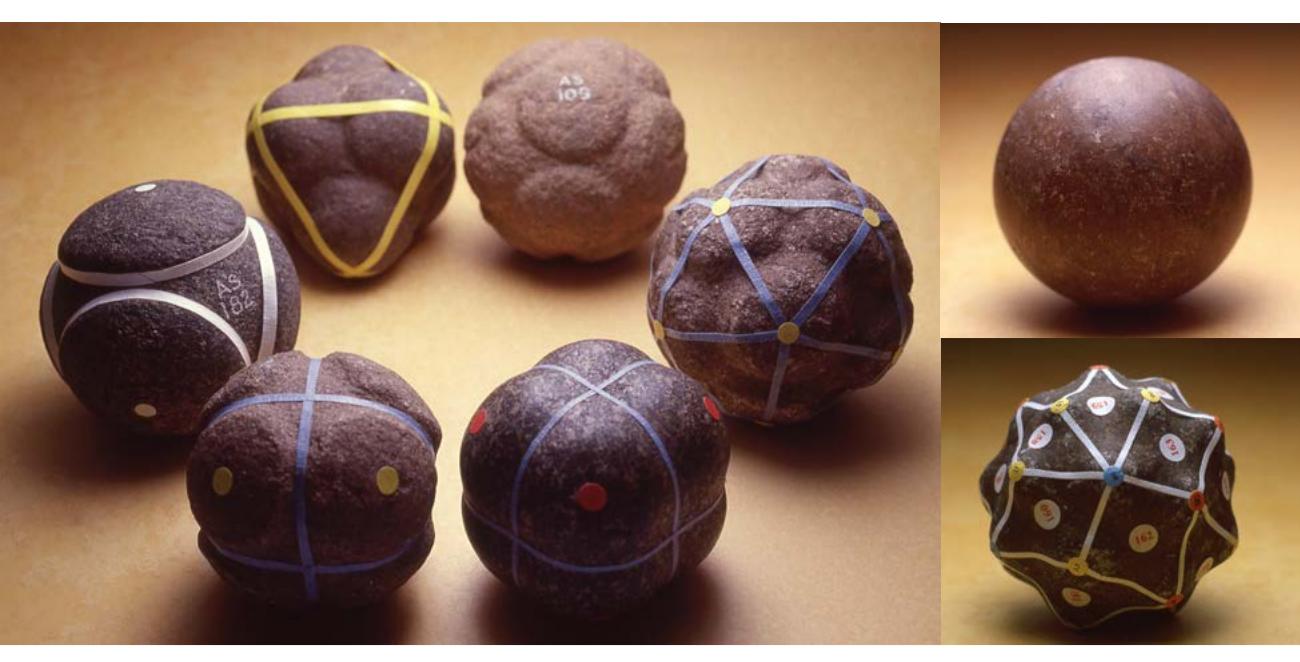


# Resonant States of Consciousness and the Golden Ratio Numbering System



Evidence in the sciences has been mounting that there is an underlying mathematics of harmony in nature. 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. In fact, in 2010, the golden ratio or  $\Phi$  was found at the core of quantum mechanics. Penrose and Hameroff provocatively suggest that consciousness emerges through the quantum mechanics of microtubules. Microtubules are composed of 13 filaments exhibiting an 8:5 phyllotaxis. Clathrins, located at the tips of microtubules, are truncated icosahedra abuzz with golden ratios. And DNA in both its decagonal structure and its Fibonacci guided nucleotide organization exhibits a golden ratio or  $\Phi$  resonance. Even the heavens seem to be structured according to Golden Fibonacci "phyllotactic" relationships. When viewing Venus from Earth a pentagonal rosette forms every 8 years (or 13 Venusian years) i.e. 13:8::8:5. Also both the mean orbits and mean diameters of Earth and Mercury are in a  $\Phi:1$  relationship.

These ratios and proportions which appear to govern all of nature, considered by some to be 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. Some methods of entering resonance include Theurgy, Gematria and Name Worshiping, or "imiaslavie," of the Moscow School of Mathematics. Ramanujan sought a resonant connection with Narashima, the Lion-Man, 4<sup>th</sup> incarnation of Vishnu, and received visions of scrolls containing profound continued fraction identities linking  $\Phi, \pi, e$ , and  $\sqrt{5}$ .

## PHI Identities:

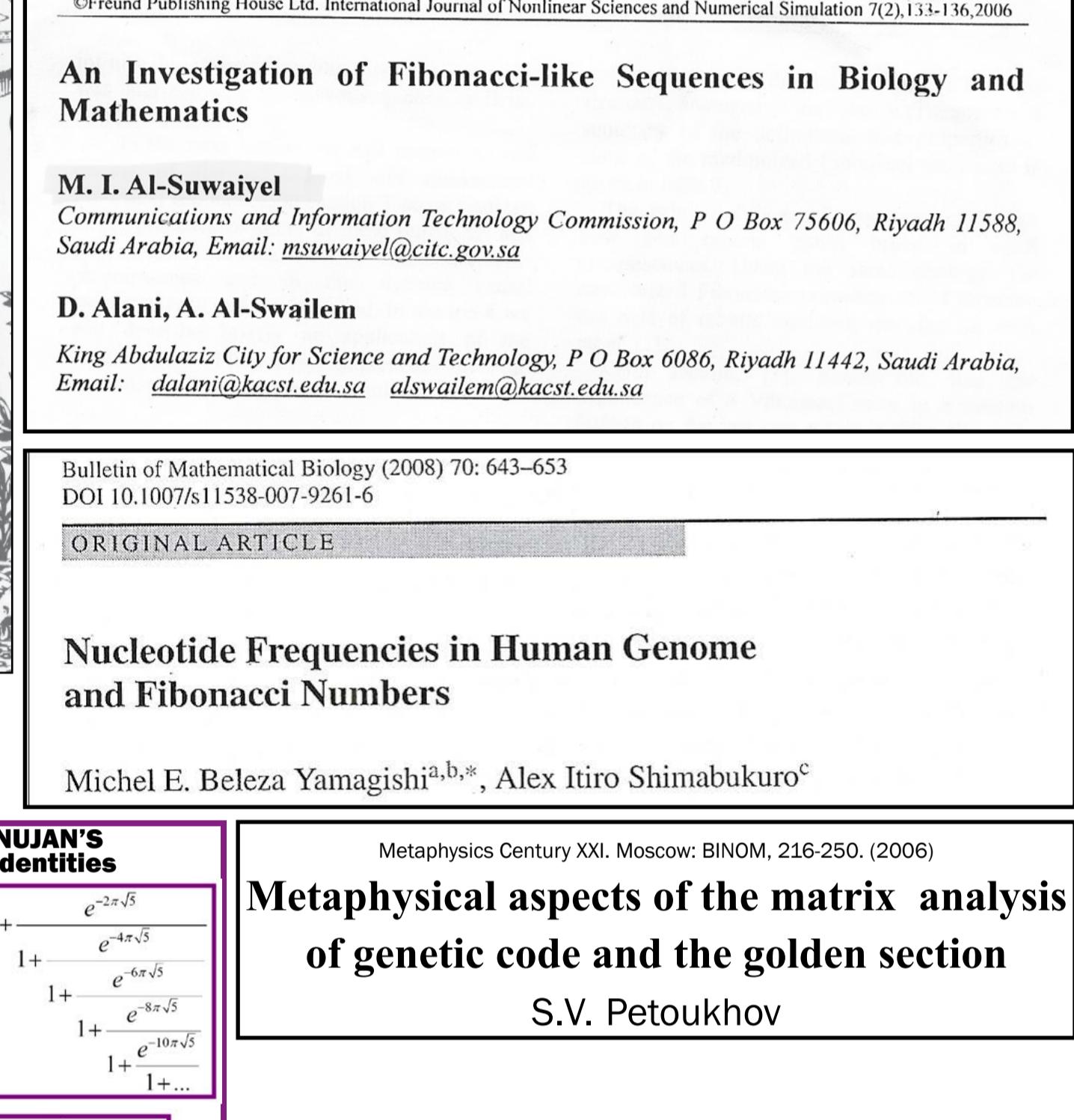
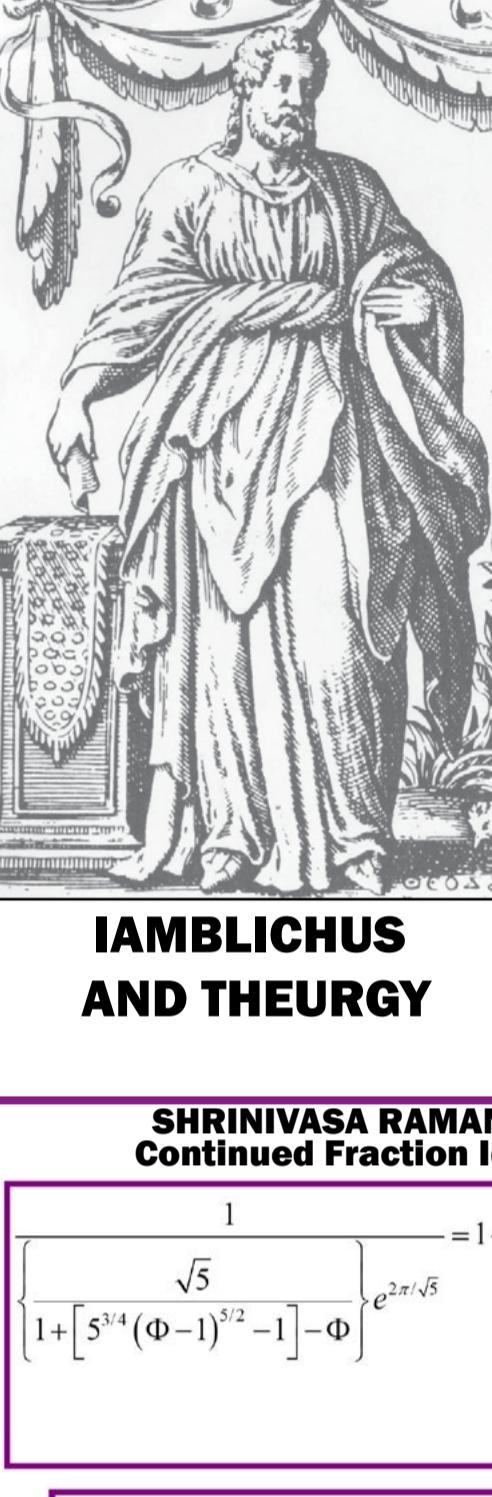
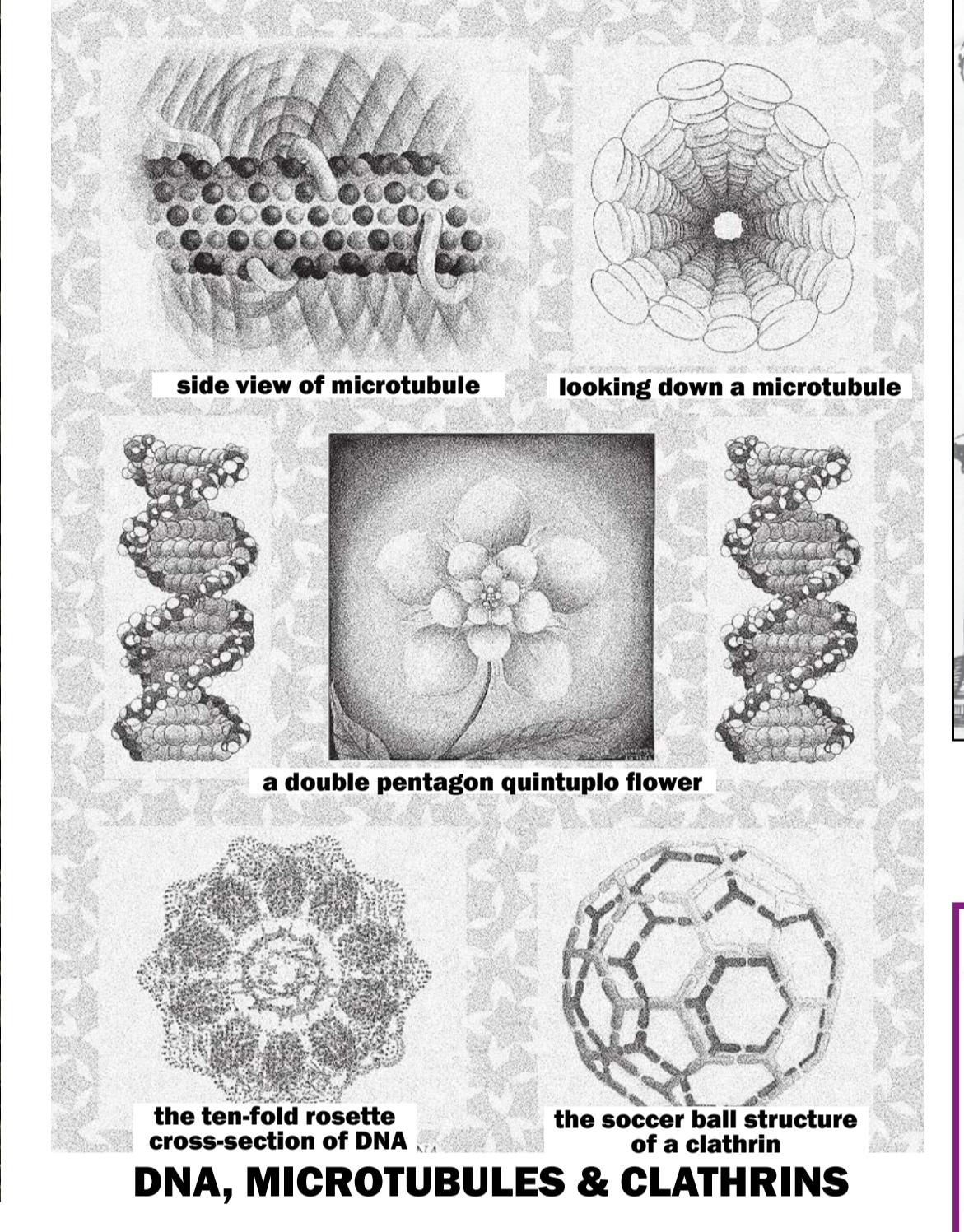
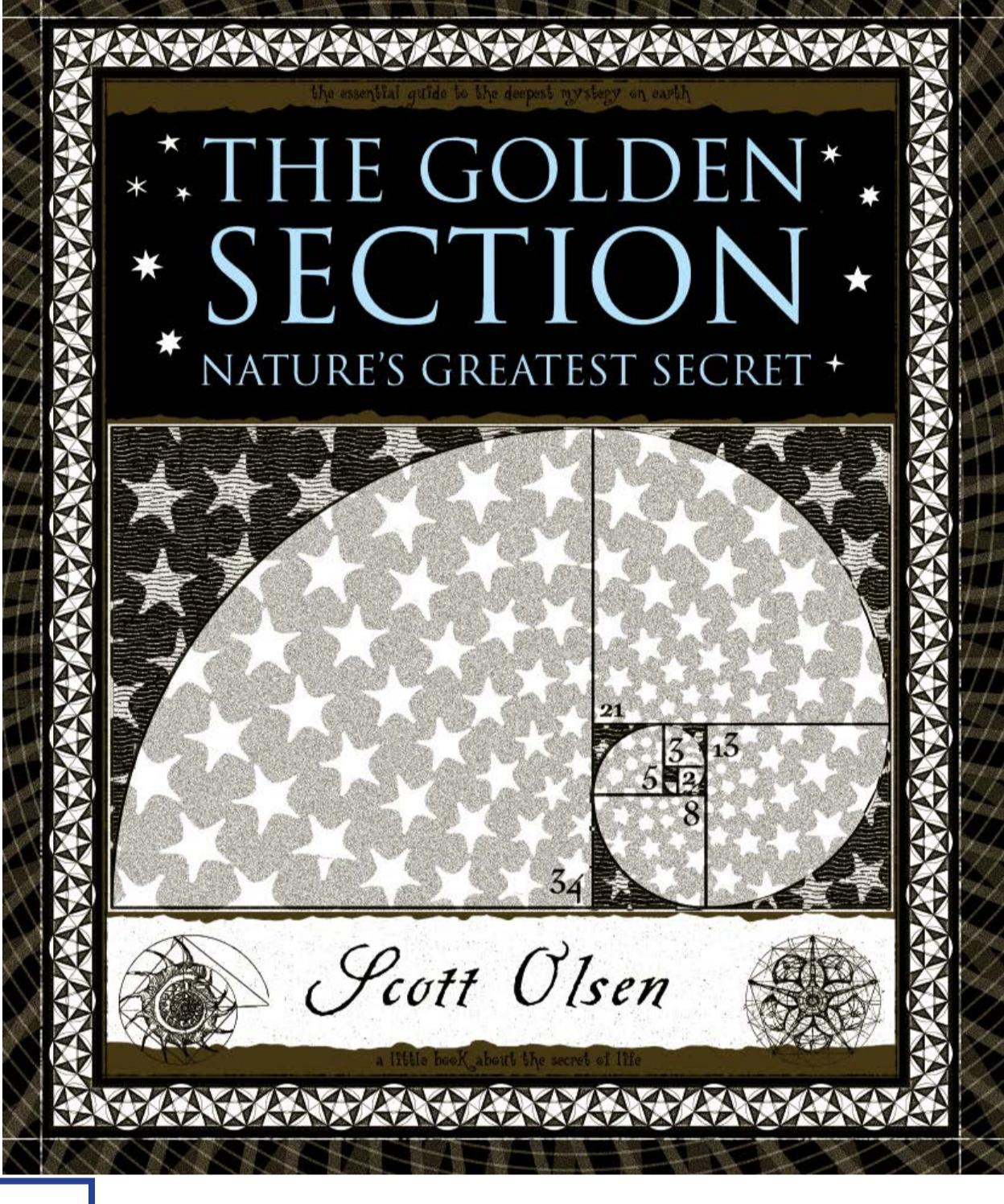
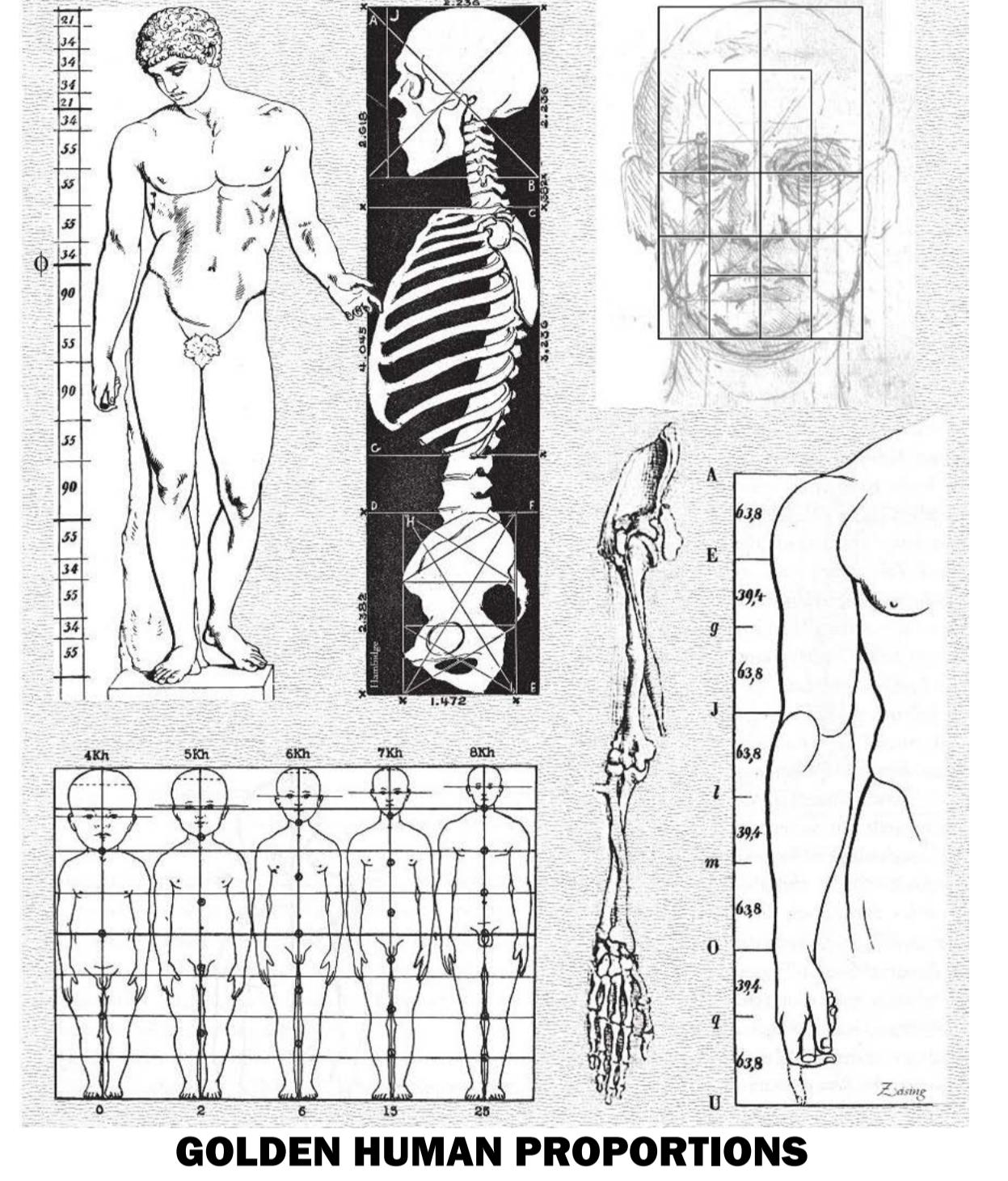
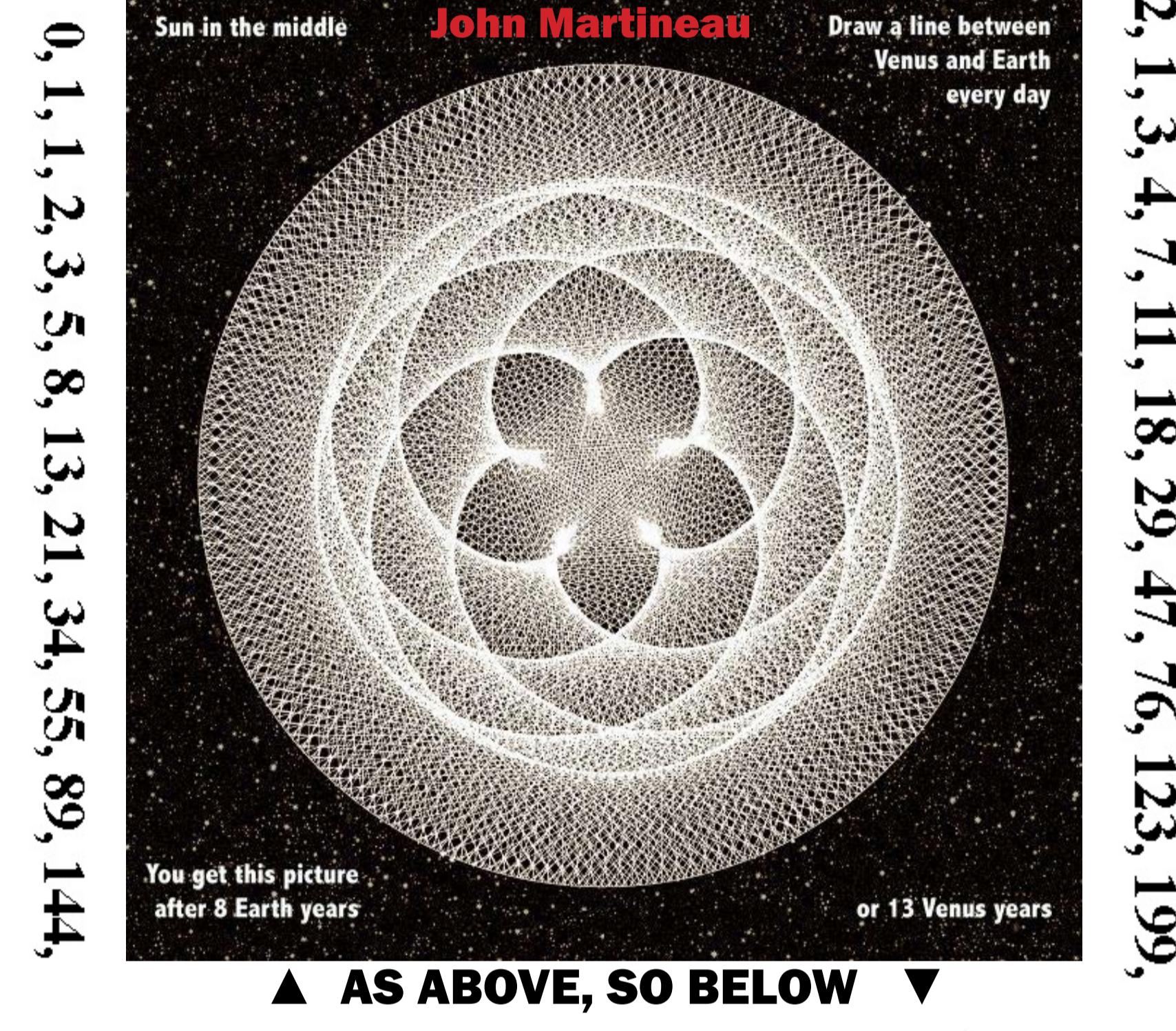
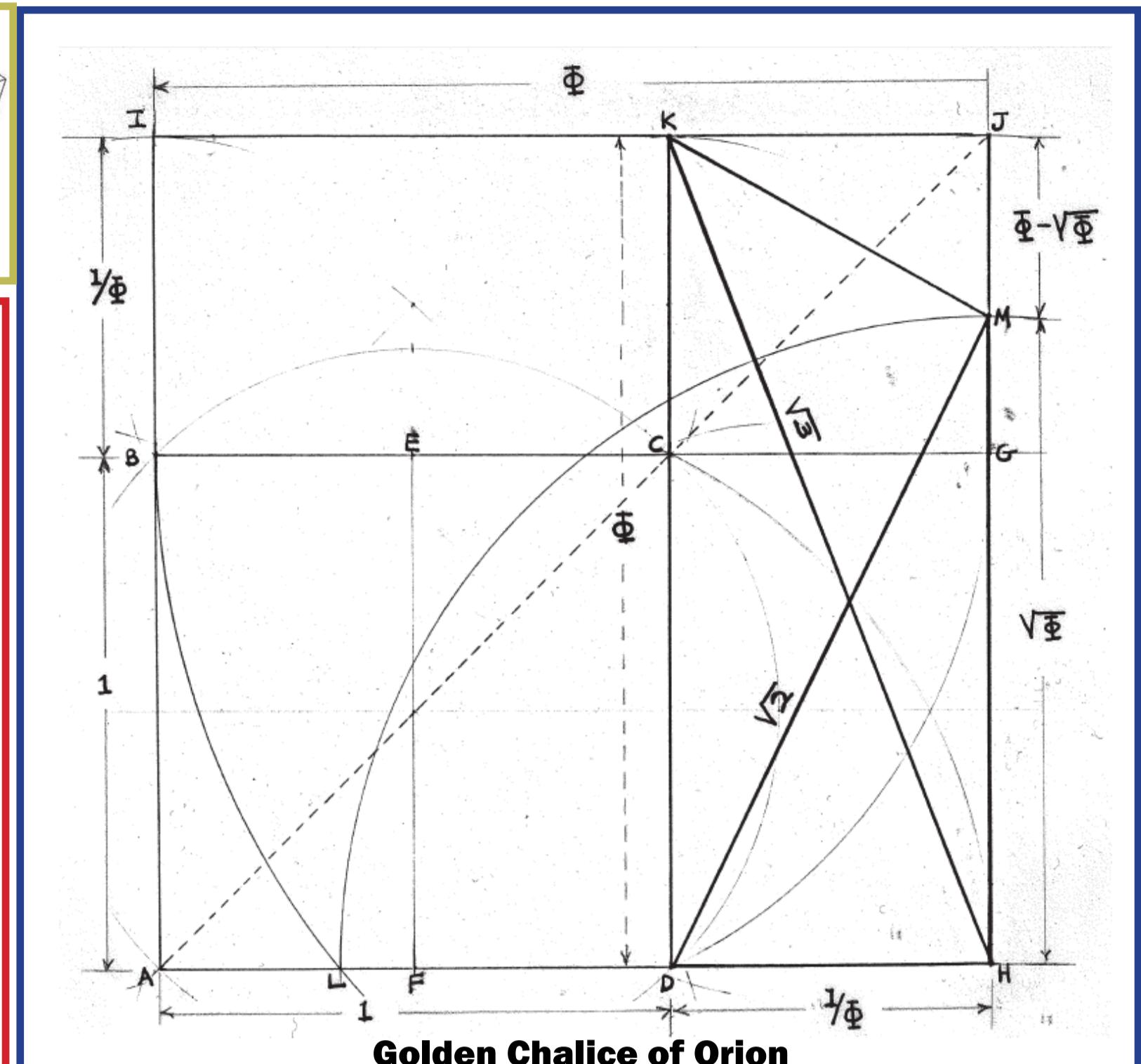
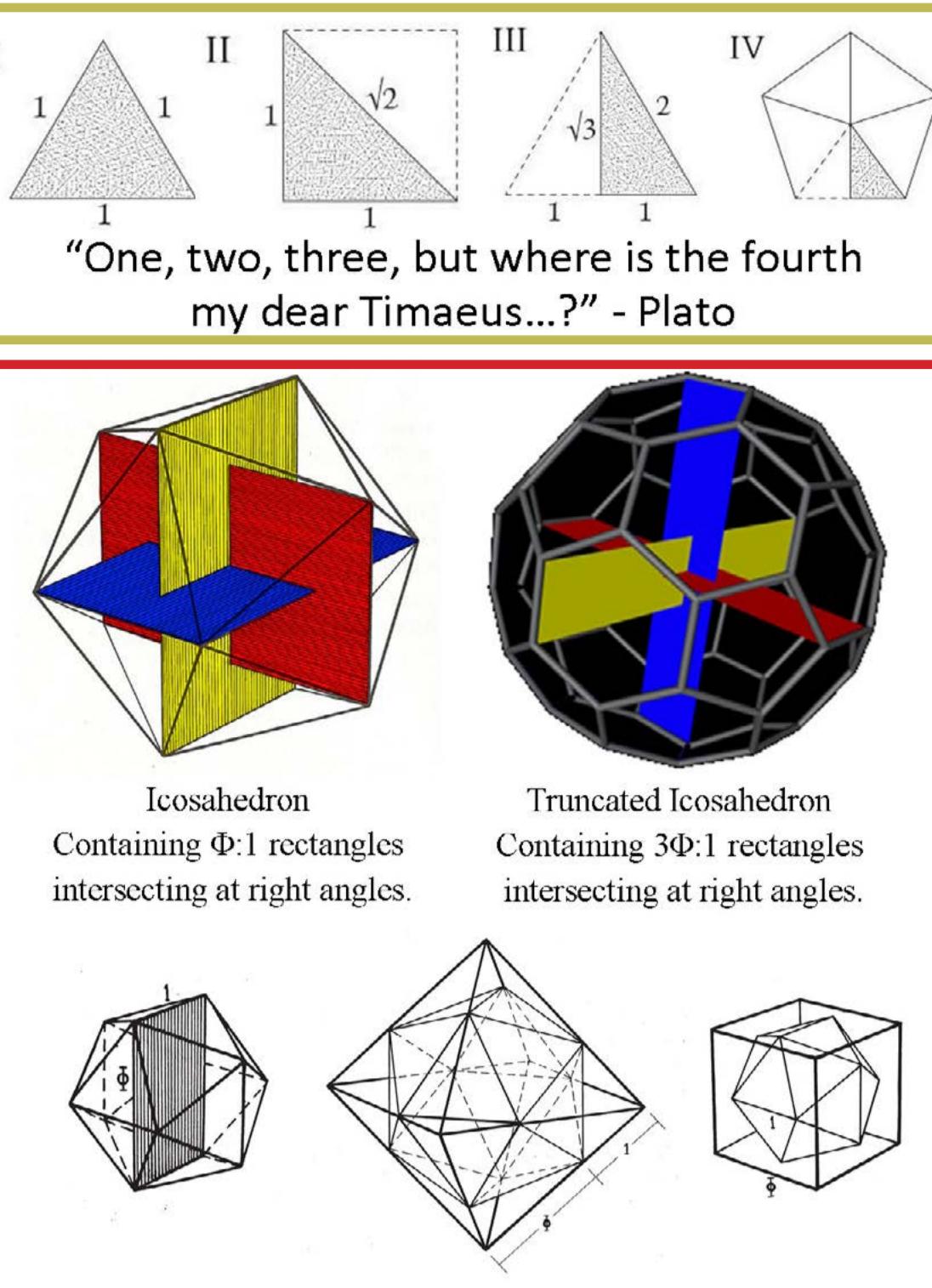
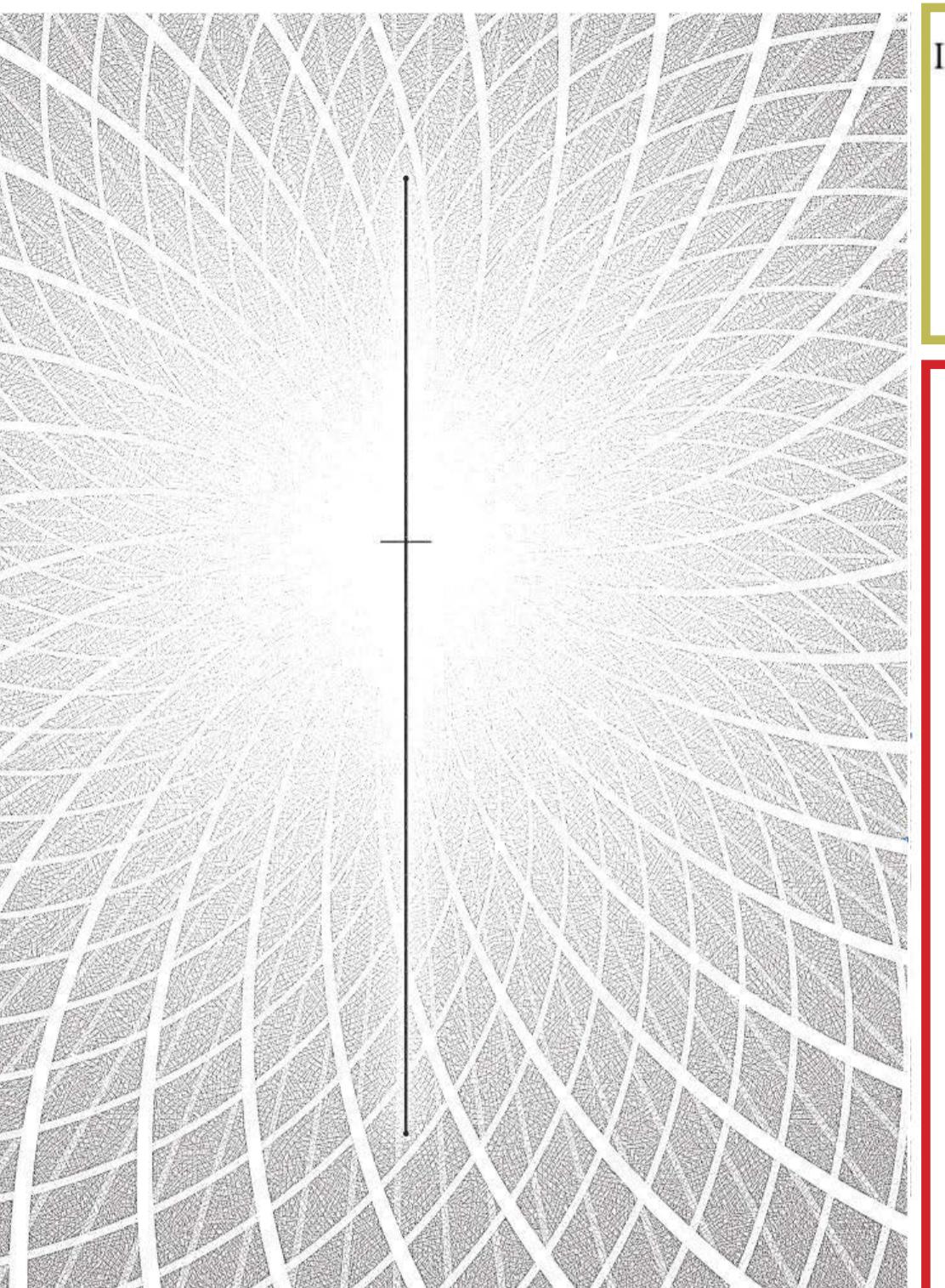
$$\Phi = 1 + \frac{1}{\Phi} \quad \text{and} \quad \Phi = \sqrt{1 + \Phi}$$

Taking the first of these and repeatedly substituting for  $\Phi$  produces the simplest continued fraction:

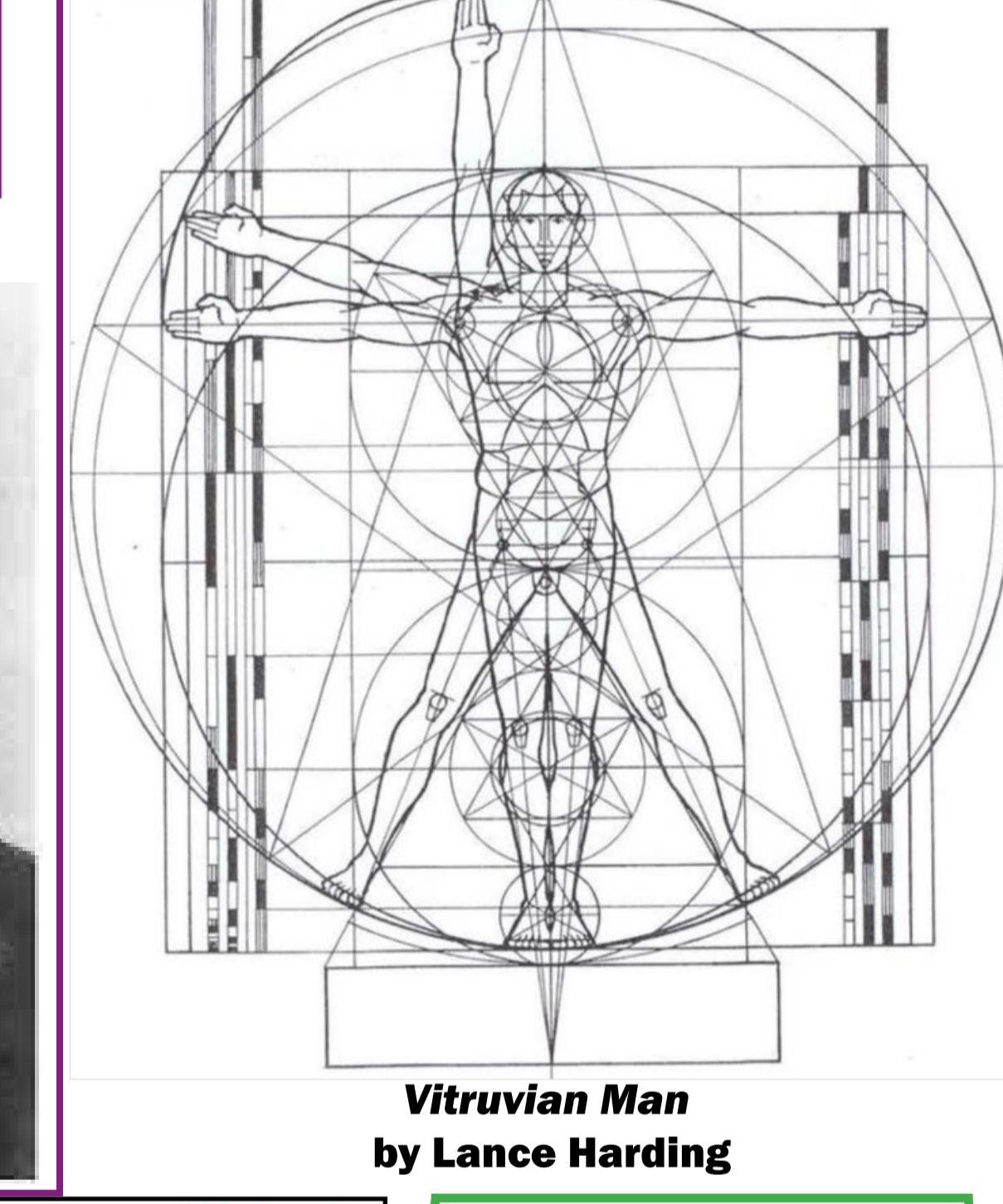
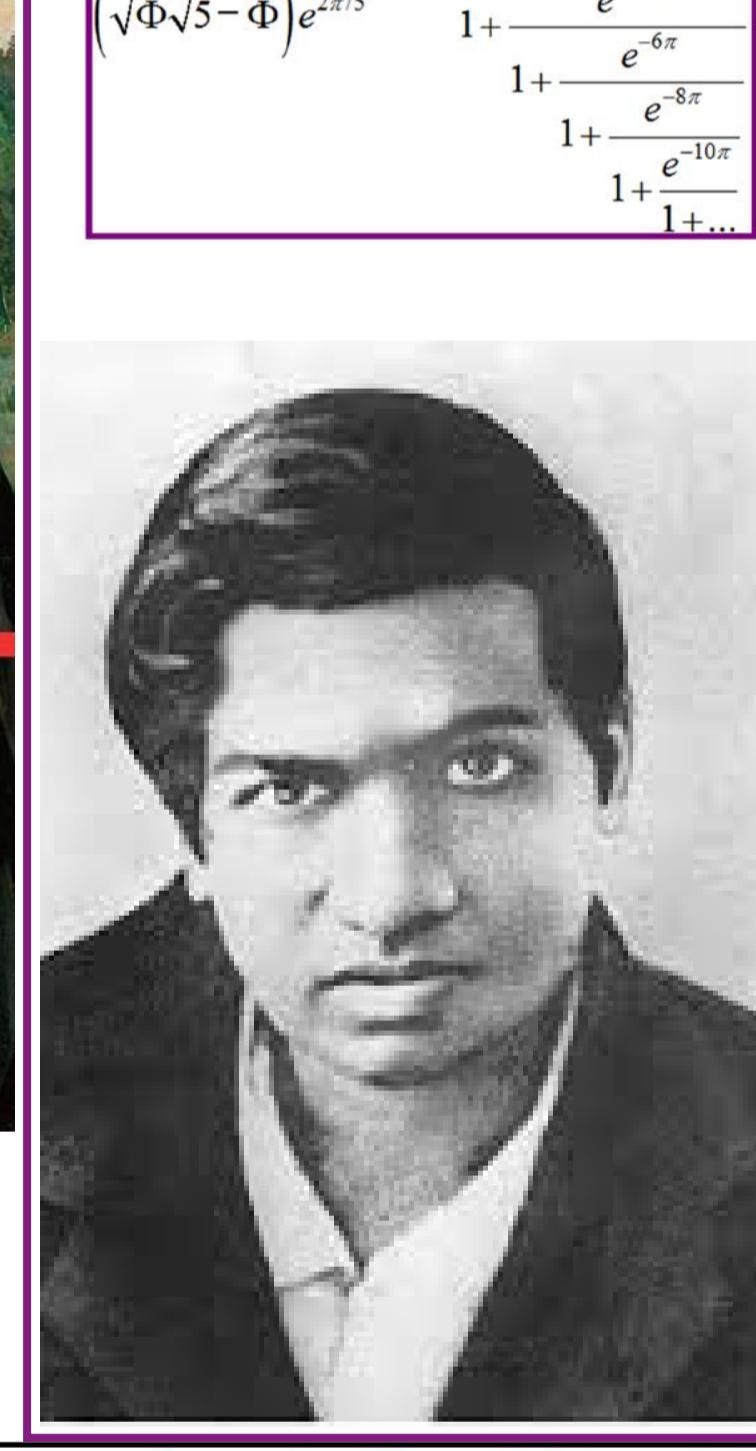
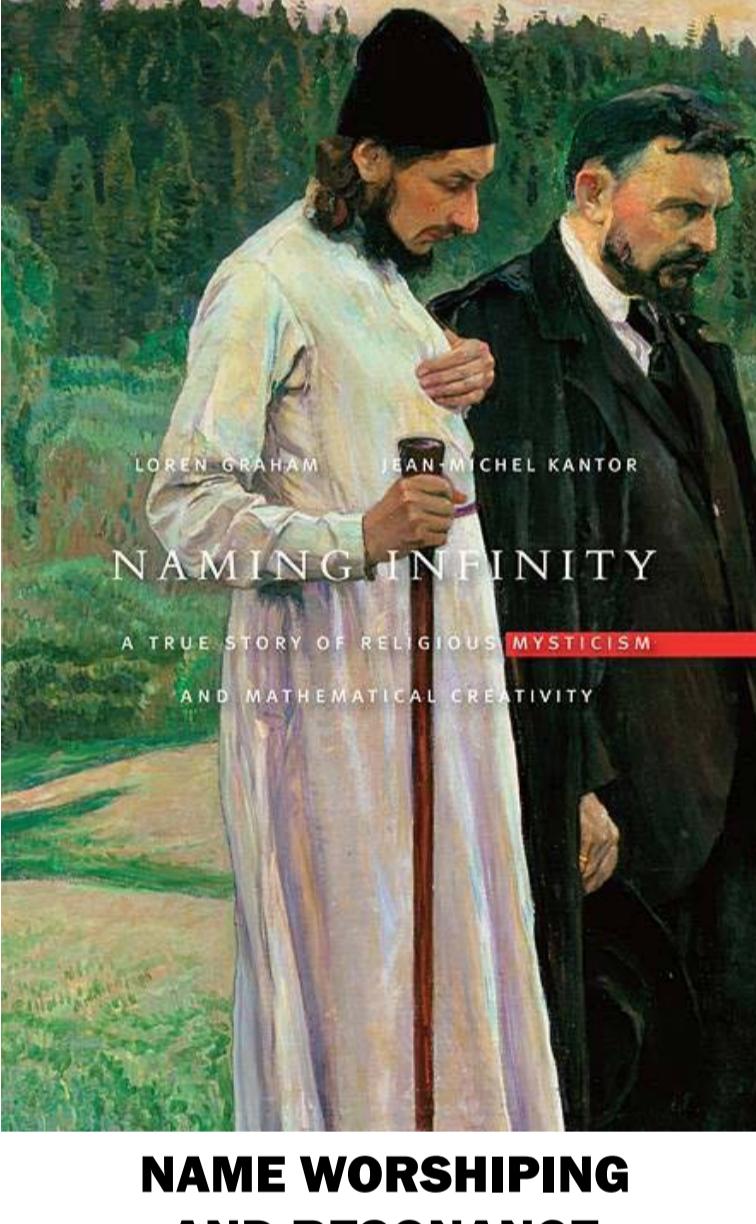
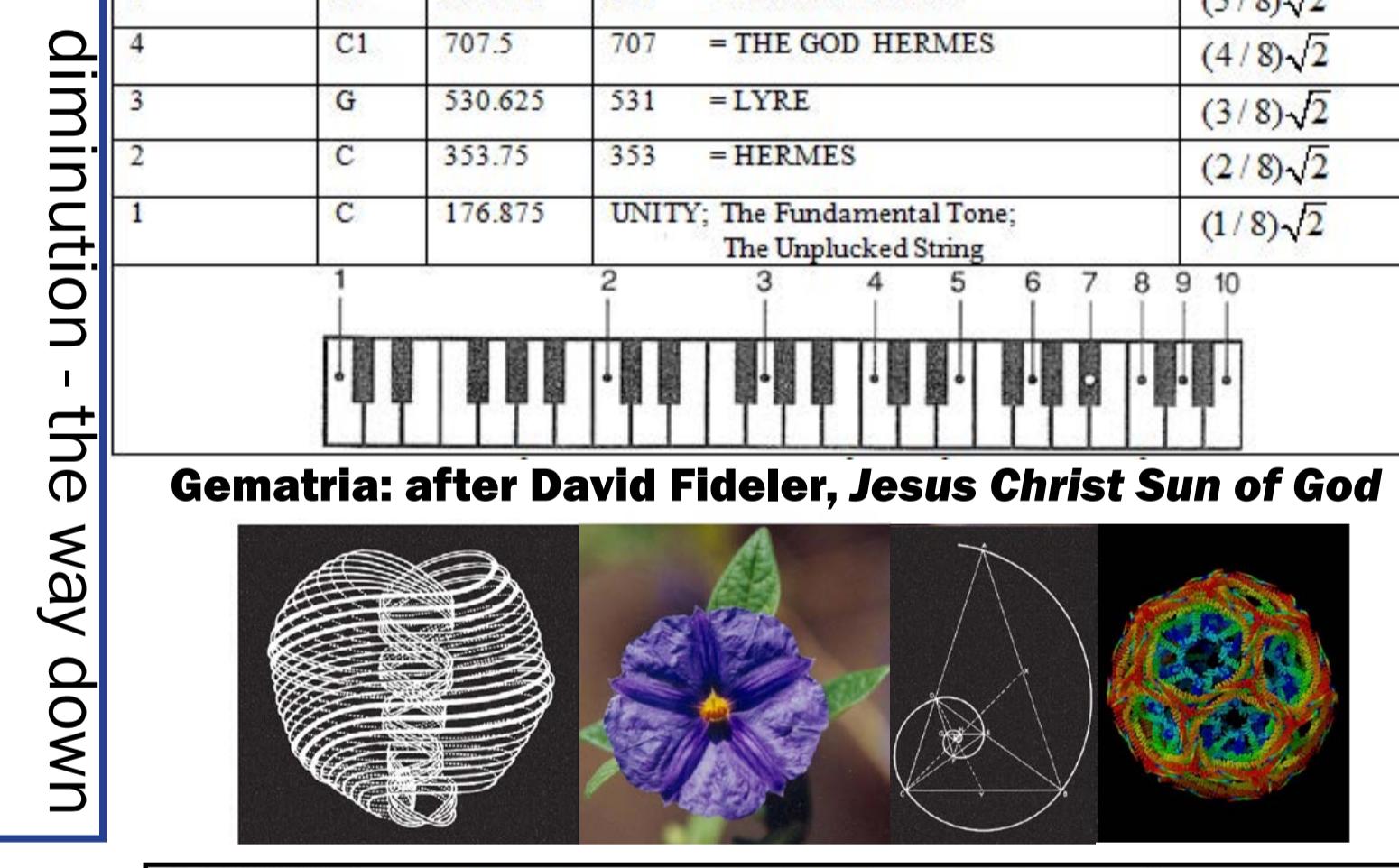
$$\begin{aligned} \Phi &= 1 + \frac{1}{1 + \frac{1}{\Phi}} = 1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\Phi}}} \\ &= 1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\Phi}}}}}}} \\ &\dots \end{aligned}$$

while taking the second and repeatedly substituting for  $\Phi$  produces the simplest nested radical:

$$\begin{aligned} \Phi &= \sqrt{1 + \sqrt{1 + \Phi}} = \sqrt{1 + \sqrt{1 + \sqrt{1 + \Phi}}} \\ &= \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \dots}}}}}} \end{aligned}$$



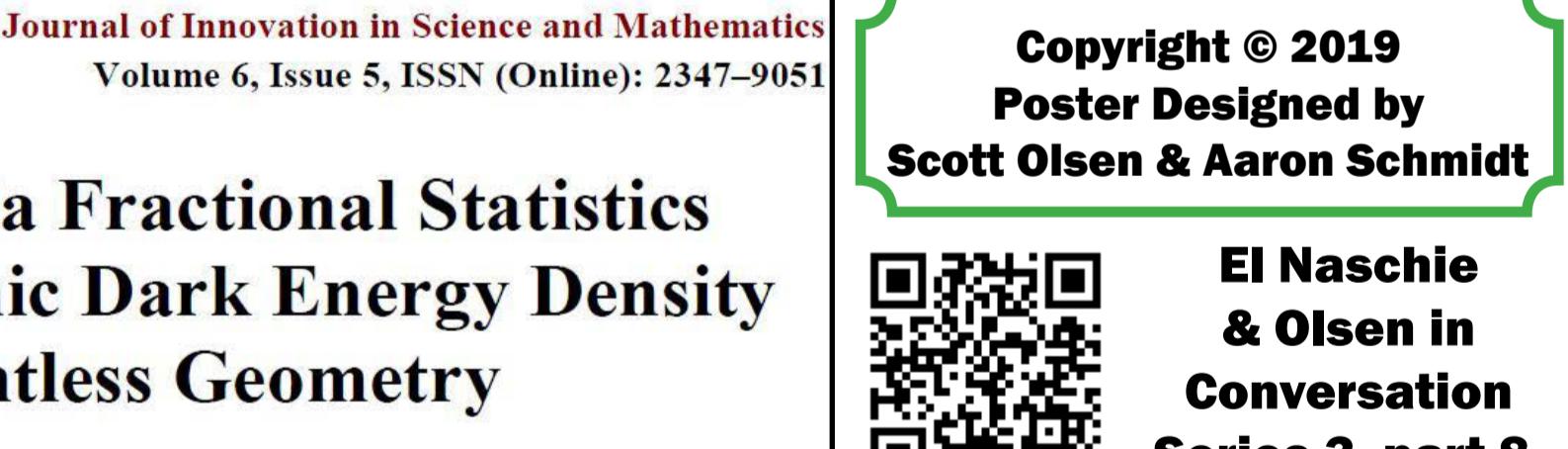
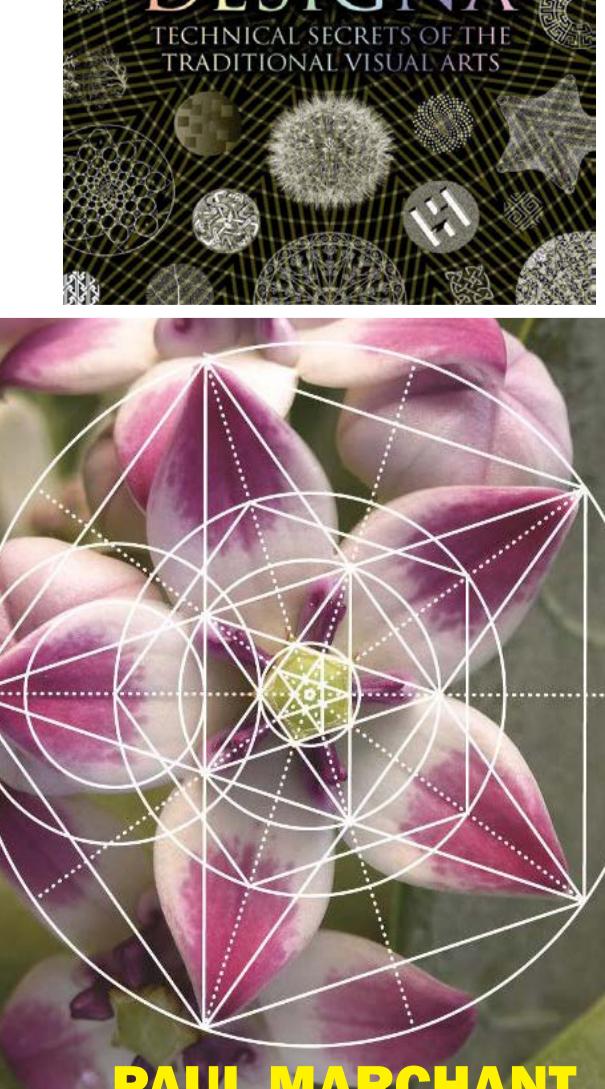
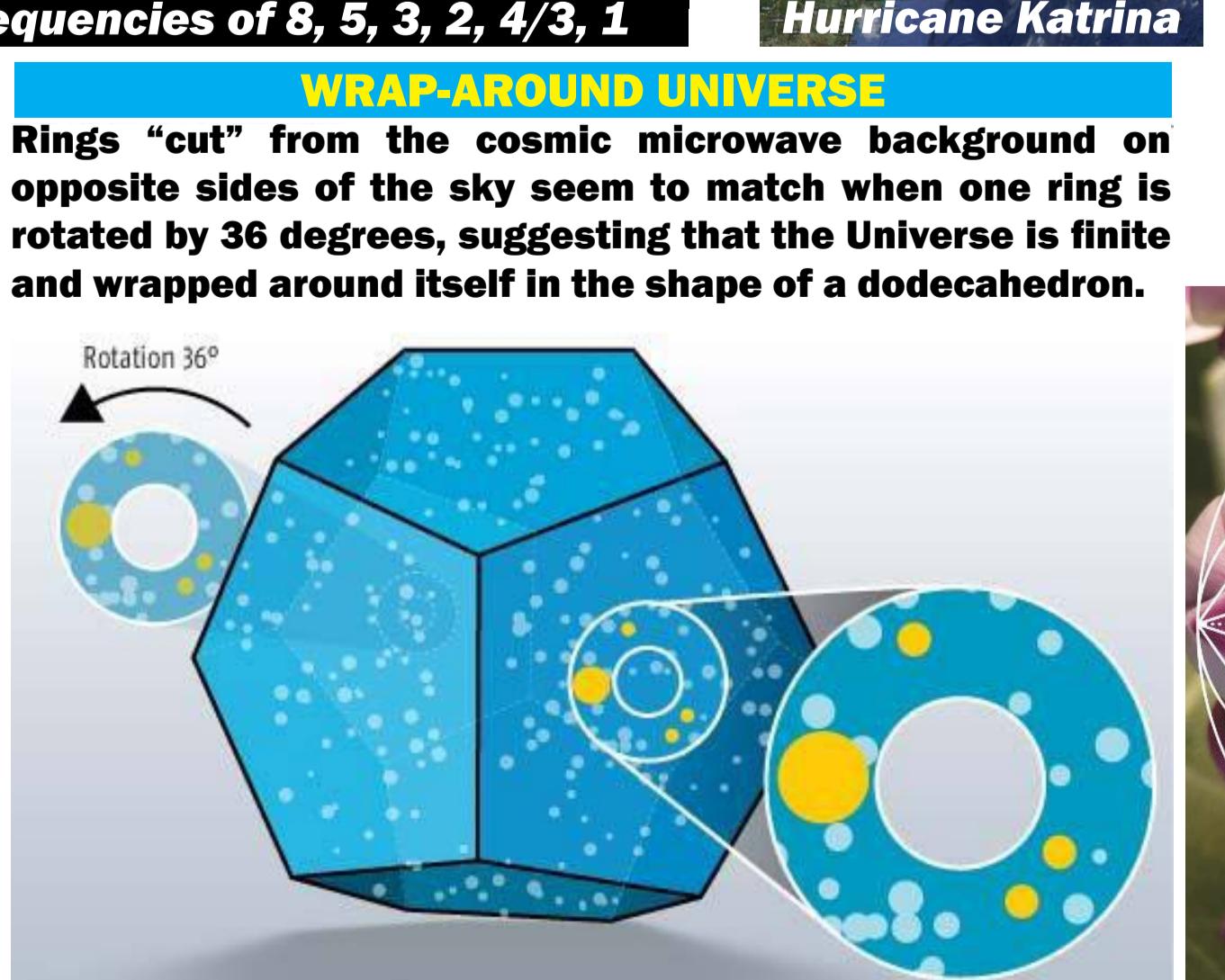
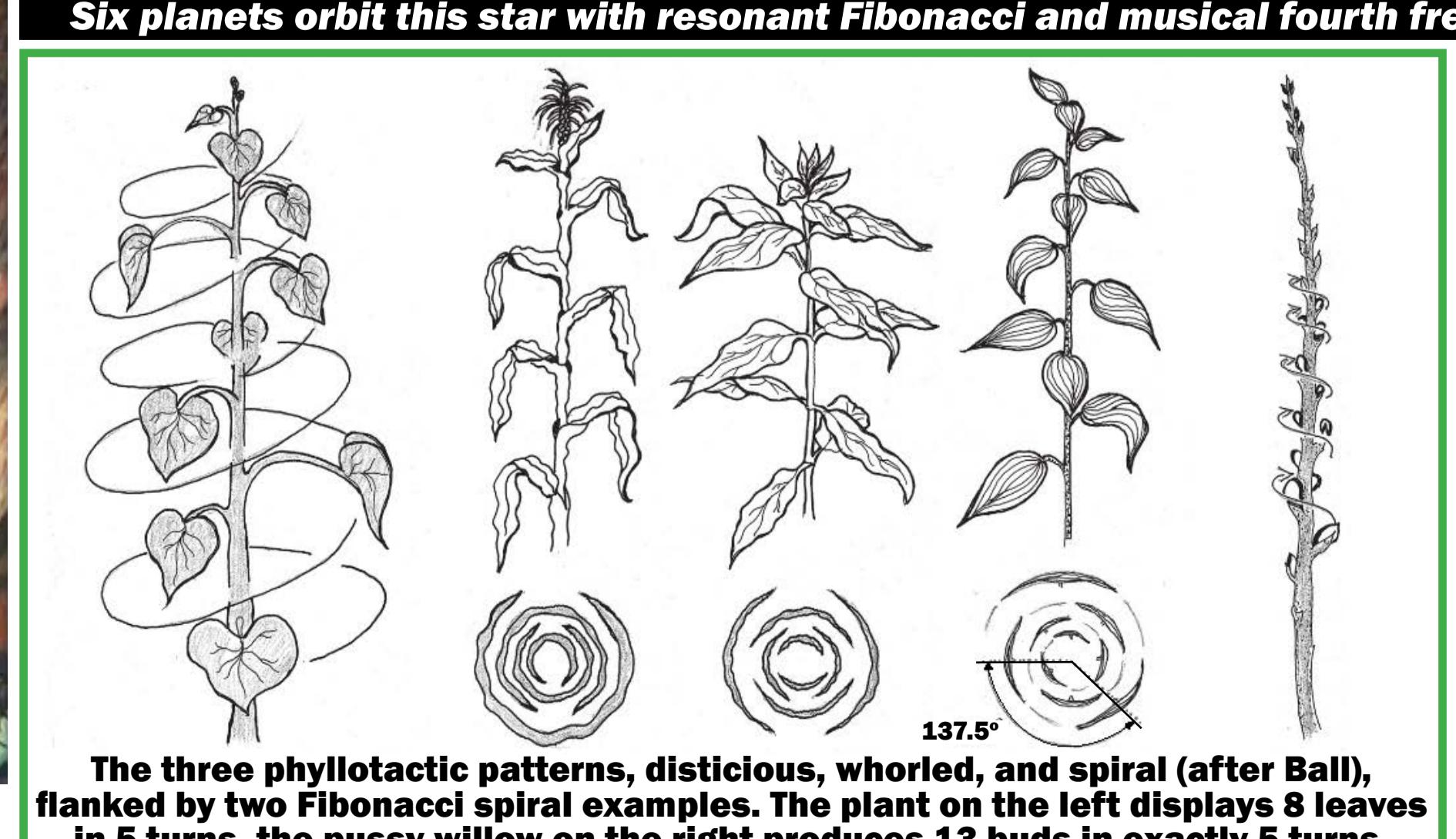
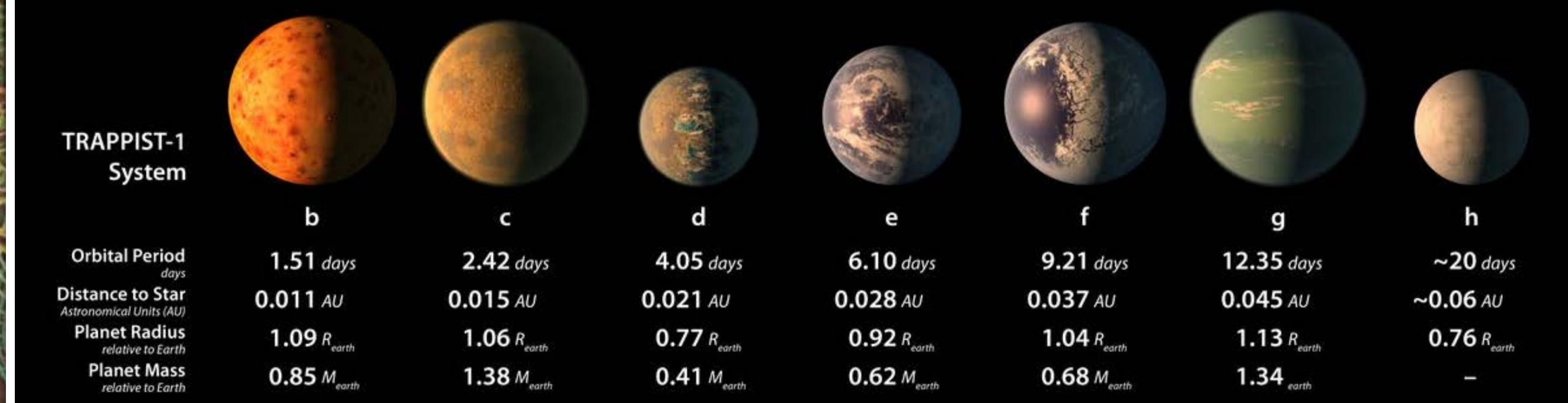
n	Greater	Mean	Lesser
7	$\Phi^7$	$\Phi^6$	$\Phi^5$
6	$\Phi^6$	$\Phi^5$	$\Phi^4$
5	$\Phi^5$	$\Phi^4$	$\Phi^3$
4	$\Phi^4$	$\Phi^3$	$\Phi^2$
3	$\Phi^3$	$\Phi^2$	$\Phi$
2	$\Phi^2$	$\Phi$	1
1	$\Phi$	1	$1/\Phi$
0	1	$1/\Phi$	$1/\Phi^2$
-1	$1/\Phi$	$1/\Phi^2$	$1/\Phi^3$
-2	$1/\Phi^2$	$1/\Phi^3$	$1/\Phi^4$
-3	$1/\Phi^3$	$1/\Phi^4$	$1/\Phi^5$
-4	$1/\Phi^4$	$1/\Phi^5$	$1/\Phi^6$
-5	$1/\Phi^5$	$1/\Phi^6$	$1/\Phi^7$
-6	$1/\Phi^6$	$1/\Phi^7$	$1/\Phi^8$
-7	$1/\Phi^7$	$1/\Phi^8$	$1/\Phi^9$



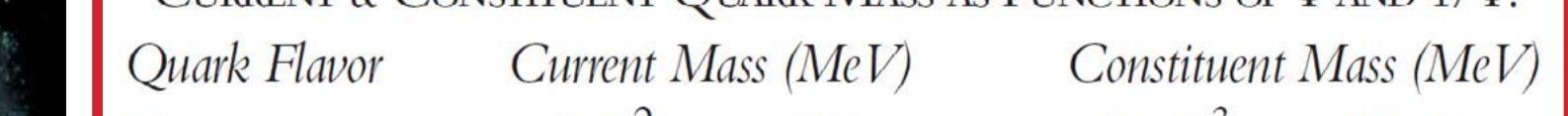
"The way up and the way down are one and the same!"  
-Heraclitus, *The Riddler*

Conclusion

Resonant techniques of transformation appear to be centered in the mathematics of harmony underlying nature. Humans may well be hardwired for attunement with the ratios underlying nature's form and function. Like tuning forks seeking union or resonance, resulting transformative states of bliss have traditionally led humanity 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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El Naschie & Olsen in Conversation Series 3, part 8.

Quark Flavor	Current Mass (MeV)	Constituent Mass (MeV)
Up	$2\Phi^2 = 5.236...$	$80\Phi^3 = 338.885...$
Down	$2\Phi^3 = 8.472...$	$80\Phi^3 = 338.885...$
Strange	$10\Phi^6 = 179.442...$	$10\Phi^8 = 469.787...$
Charm	$300\Phi^3 = 1,270.82...$	$20\Phi^9 = 1,520.263...$
Beauty (Bottom)	$10^3\Phi^3 = 4,236.067...$	$100\Phi^8 = 4,697.871...$
Truth (Top)	$10^4\Phi^3 = 42,360.679...$	$10^4\Phi^6 = 179,442.719...$

Subatomic particle	theoretical mass (MeV)	experimental value (MeV)
e (electron)	$\sqrt{\bar{a}_0}/10 = \sqrt{(10\Phi^2)/10} = 0.51166...$	0.511
n (proton)	$\bar{a}_0^{-2}/20 = (20\Phi^4)^2/20 = 939.574...$	939.563
P (proton)	$(\bar{a}_0 - \kappa_0)^2/20 = 137^2/20 = 938.45...$	938.27231
$\Pi^\pm$ ( $\Pi$ meson)	$\bar{a}_0 + (5/2) = 139.5820...$	139.57
$\Pi^0$	$\bar{a}_0 - (5/2) = 134.5820...$	134.98
$\Omega^-$	$10[\bar{a}_0 + (49/\Phi)] = 1,673.657...$	1,672.43
$\Xi^-$	$10[\bar{a}_0 - (8/\Phi)] = 1,321.377...$	1,321.32
$\Xi^0$	$10[\bar{a}_0 - (9/\Phi)] = 1,315.197...$	1,314.9
$\mu$ (muon)	$\sqrt{(1000\Phi^5)} = 105.309$ or $(20 + \kappa)^2 = 105.665...$	105.65839
$\eta$	$(4\bar{a}_0)^2/20 = (40\Phi^2)^2/20 = 548.328... = m_\eta$	548.8
$\eta'$	$(7/4)m_\eta = (7/80)(4\bar{a}_0)^2 = 959.5742755...$	957.5